South Sudan

Secondary
ICT
Information Communication Technology
Student's Book

4

How to take care of your books.

Do's

1. Please cover with plastic or paper. (old newspaper or magazines)
2. Please make sure you have clean hands before you use your book.
3. Always use a book marker do not fold the pages.
4. If the book is damaged please repair it as quickly as possible.
5. Be careful who you lend your schoolbook to.
6. Please keep the book in a dry place.
7. When you lose your book please report it immediately to your teacher.

Don'ts

1. Do not write on the book cover or inside pages.
2. Do not cut pictures out of the book.
3. Do not tear pages out of the book.
4. Do not leave the book open and face down.
5. Do not use pens, pencils or something thick as a book mark.
6. Do not force your book into your schoolbag when it is full.
7. Do not use your book as an umbrella for the sun or rain.
8. Do not use your book as a seat.

ICT
Student's Book 4

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UNIT 1 DATABASES

SPECIFIC LEARNING OUTCOMES

By the end of this unit you should;

- Understand databases and know how to manage data using database software, e.g. Microsoft Access
- Be able to use Microsoft Access
- Construct multi-relation database
- Be able to query, sort and summarize data
- Perform database housekeeping activities (editing and updating)
- Create user interface menus

Key inquiry questions

1. What is a database and database management system?
2. What is Microsoft Access?
3. What is the importance of databases?
4. How are data tables created in Microsoft Access?
5. How are data relations joined in a database?
6. How is data queried, sorted and summarized to generate reports?
7. How are books managed in a school library? (a small library information system)

A **database** can be defined as a collection of data, or information that is specially organized for rapid search and retrieval by a computer. It is a collection of information that is organized so that it can be easily accessed, managed and updated. Databases are structured to facilitate the storage, retrieval, modification, and deletion of data in conjunction with various data-processing operations.

Activity 1: Data Organization and Format

Work in pairs

A family has four children and a lot of paperwork relating to their education (e.g. school books, test papers, school fees, certificates) and their health (e.g. medical records, vaccinations).

They have bought a filing cabinet with four drawers. Suggest how they should use the filing cabinet so that they can easily find every document.

Write your explanations and discuss with your partner. Be prepared to answer questions about your explanation. Which pair has the most convincing explanation?

A database is an electronic version of the paper filing system you were been planning in activity 1. Obviously an electronic database has many advantages over a paper-based system.

Data is organized into rows, columns and within tables. Databases process workloads to create and update themselves, querying the data they contain and running applications against it.

Computer databases typically contain a compilation of data records or files, such as sales transactions, product catalogs and inventories, and customer profiles.

Uses for database systems include:

- Data storage. They also store special information used to manage the data. This information is called metadata and it is not shown to all the people looking at the data.
- Access Control. They can solve cases where many users want to access (and possibly change) the same entries of data. They manage access rights (who is allowed to see the data, who can change it)

- Concurrent users. When there are many users asking questions to the database, the questions must be answered faster. So, the last person to ask a question can get an answer in reasonable time.
- Certain attributes are more important than others; they can be used to find other data. This is called indexing. An index contains all the important data and can be used to find the other data.
- They ensure that the data always has context. There are a lot of different rules that can be added to tell the database system if the data makes sense. One of the rules might say November has 30 days. This means if someone wants to enter November 31 as a date, this change will be rejected.

Activity 1.2: File Naming and Structure

Work in pairs

1. Why is file naming important?
2. How should you name your file?
3. How should files be structured?

Discuss

Write your explanations and discuss with your partner. Be prepared to explain your answer.

Work together with your partner to develop a presentation that explains in detail about file naming and structure and their importance. Relate this to everyday usage of data in computers.

Presentation

Make your presentation to the class.

1.1 Database management system (DBMS)

A database management system (DBMS) is system software for creating and managing databases. The DBMS provides users and programmers with a systematic way to create, retrieve, update and manage data.

A database schema is the skeleton structure that represents the logical view of the entire database. It defines how the data is organized and how the relations among them are associated. It formulates all the constraints that are to be applied on the data.

The DBMS is most useful for allowing access to data by multiple users, from multiple locations. A DBMS can limit what data the end user sees, as well as how that end user can view the data.

Advantages of DBMS:

- ❖ Improved data sharing.
- ❖ Integrity can be enforced.
- ❖ Minimized data inconsistency.
- ❖ Providing backup and recovery
- ❖ Improved data security.

Database management systems are important to businesses and organizations because they provide a highly efficient method for handling multiple types of data. Some of the data that are easily managed with this type of system include:

- Employee records
- Learners information
- Payroll, accounting
- Project management
- Inventory and library books.

These systems are built to be extremely versatile.

Without database management, tasks have to be done manually and take more time. Data can be categorized and structured to suit the needs of the company or organization. Data is entered into the system and accessed on a routine basis by assigned users. Each user may have an assigned password to gain access to their part of the system. Multiple users can use the system at the same time in different ways.

For example, a company's human resources department uses the database to manage employee records, distribute legal information to employees and create updated hiring reports. A manufacturer might use this type of system to keep track of production, inventory and distribution. In both scenarios, the database management system operates to create a smoother and more organized working environment.

Activity 1.3: DBMS

Work in groups

In what ways do you think an electronic database is better than a paper-based system?

Compare processes involved in each.

Presentation

Develop presentations of answers in each question and present to the whole class. What are the common answers in each group?

1.1.1 Popular Types of Database Management System

1. **Relational database management system (RDMS)** – This is based on the relational model; most databases in widespread use are based on the relational database model.
2. **NoSQL DBMS** ("not only SQL,") – this is an approach to database design that can accommodate a wide variety of data models, including key-value, document, columnar and graph formats.
3. **In-memory database management system (IMDBMS)** - this is a database management system that primarily relies on main memory for computer data storage. It is contrasted with database management systems that employ a disk storage mechanism.
4. **Columnar database management system (CDBMS)** – this is a database management system (DBMS) that stores data tables by column rather than by row. In a relational database, data access is always by row. Changing the focus from the row to column can improve performance when large amounts of data are aggregated in a few columns.
5. **Cloud-based data management system** - is a database that typically runs on a cloud computing platform, access to it is provided as a service the cloud

service provider is responsible for providing and maintaining the DBMS. Compared with operating a traditional database on an on-site physical server and storage architecture, a cloud database offers the following distinct advantages:

- Elimination of physical infrastructure.
- Cost savings.

Exercise 1

1. List the features of each popular type of databases.
2. What are the uses of popular types of databases?

1.1.2 Data organization

Computer programs, particularly those which manipulate data, are built using structures and manipulations to organize data with one of the goals being to present to a final user data in an organized and comprehensible form.

Data stored in computer systems form a hierarchy extending from a single bit to a database, the major record-keeping entity of a firm. Each higher rung of this hierarchy is organized from the components below it.

Bits and Bytes	A bit is the smallest unit of data representation (value of a bit may be a 0 or 1). Eight bits make a byte which can represent a character or a special symbol in a character code.
Fields (rows)	A field consists of a grouping of characters. A data field represents an attribute (a characteristic or quality) of some entity (object, person, place, or event).
Records (rows)	A record represents a collection of attributes that describe a real-world entity. A record consists of fields, with each field describing an attribute of the entity.
Files	This is a group of related records. Files are frequently classified by the application for which they are primarily used (employee file) e.g. employee files, safety records, Test scores.
Databases	This is an integrated collection of logically related records or files. A database consolidates is managed by systems software called database management systems (DBMS).

1.2   Introduction to Microsoft Access

Microsoft Access is a database management system (DBMS) from Microsoft that is an information management tool that helps you store information for reference, reporting, and analysis.

Microsoft Access helps you analyze large amounts of information, and manage related data more efficiently than Microsoft Excel or other spreadsheet applications.
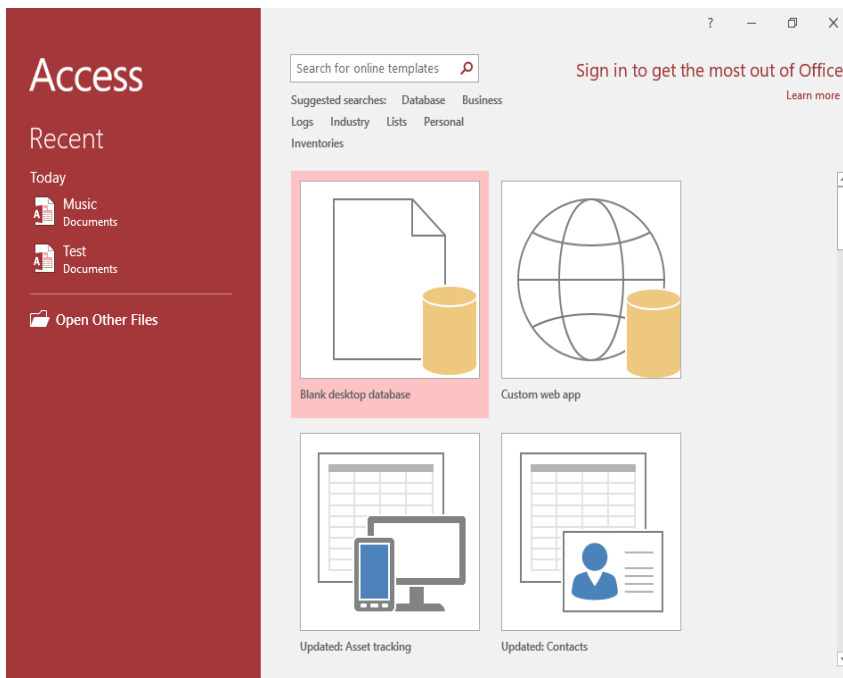
Fig 1.1 MS Access 2016 Welcome Screen

A spreadsheet program is a terrific tool for maintaining and calculating small sets of information. Microsoft Excel is easy to understand, create column names, enter your data, and create formulas.

You can sort, filter, and format the data quickly and easily. But spreadsheets are not ideal for handling hundreds of records where you need to have "one version of the truth" for something like a customer, a contact, or main "thing" you need to track.

It is very easy to introduce errors into a spreadsheet, which then makes analysis, summing, and reporting very challenging. The image below provides a quick example of several key challenges spreadsheets face.

1.2.1 Starting a project

Microsoft Access is equipped with all the tools you will need to start a project, to end it, and to distribute it. As is the case for every application, to use Microsoft Access, you must launch it, which is done from the menu on the Start button of Microsoft Windows. When it starts, Microsoft Access displays two sections:
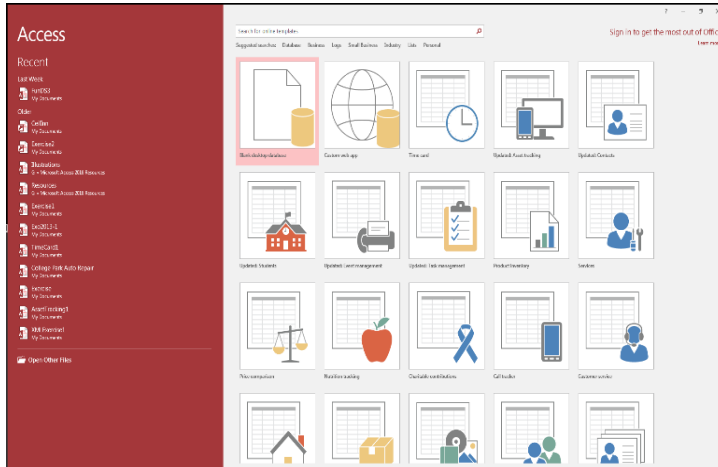
Figure 1.2 Microsoft access sections

The left side displays a list of previously used files. The right side displays a list of example databases. To start with a project from scratch, you can click Blank Desktop Database. This would bring up a dialog box:
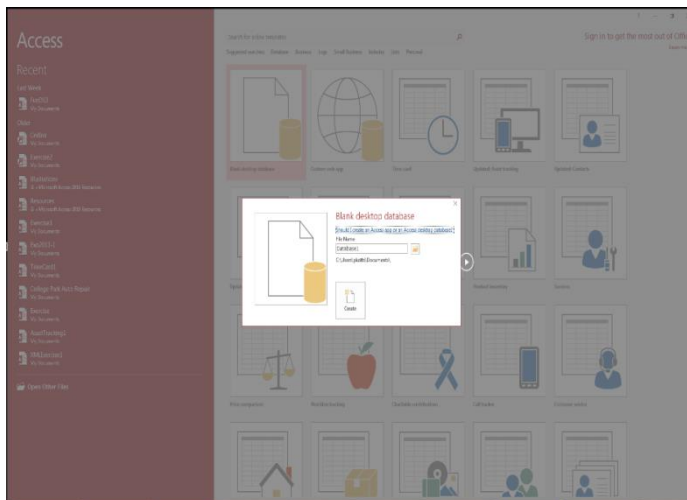
Figure 1.3 a dialog box

In the dialog box, specify the desired name of the file and click Create.

To Create a Database;

1. In the middle section, click Blank Desktop Database.

2. In the right section of the screen, set the File Name to database.
3. Click Create.

Activity 1.4: MS Access Page

Work in pairs

Open Microsoft Access

Create a data table with a few columns and insert some simple data.

Try using each of the tools to manipulate the data to familiarise yourself with the tools.

Discuss the value of each tool with your class.

1.2.2 The Structured Query Language (SQL)

The primary language to perform the operations on a database is called the structured query language, or SQL. As it is common with other computer languages, the SQL has its own syntax, vocabulary, and rules. The SQL language is equipped with key words that tell it what to do and how to do it. Microsoft Access supports many ways of using, interpreting, or applying the SQL language.

1.2.3 A SQL Statement

Code based on SQL is referred to as a SQL statement. In Microsoft Access, to open a window you can use to create or use a SQL statement, on the Ribbon, click Create. In the Queries section, click Query Design. This would display the Show Table dialog box. Click Close.

To open the window that allows you to write code:

- Right-click the middle of the Query window and click SQL View
- On the Ribbon, in the Results section of the Design tab of the Ribbon, click
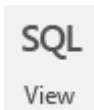
  the SQL button SQL View
- On the Ribbon, in the Results section, click the arrow of the View button and click SQL View
- On the status bar of the Query window, click the SQL View button SQL

This would display a window with a default line of code. This is referred to as the Query window. In it, you can either edit its existing code or delete the default code and replace it with your own code.

When writing a SQL statement, the SQL is not case-sensitive. This means that the words Case, case, and CASE represent the same thing. This applies to keywords of the SQL or words that you will add in your statements.

After writing your SQL statement, you can execute it to see the result. To do this:

- □   In the Results section of the Ribbon, click the Run button
- □   In the Results section of the Ribbon, click the View button
- □   In the status bar of Microsoft Access, click the Datasheet View button

After viewing the result, to return to the Query window:

- □   Right-click the title bar of the window and click SQL Code
- □   In the Results section of the Home tab of the Ribbon, click the arrow of the View button and click SQL Code.

Practical Example

As you work through the following section it would be useful to try out the processes described so that you gain experience of using the database.

1.2.4 SELECT Something

The most fundamental operator used in the SQL is called **SELECT**. This operator is primarily used to display a value to the user. In this simple case, it uses the following formula:

```
SELECT Value;
```
The value on the right side of **SELECT** must be appropriate. It can be a number. Here is an example:

```
SELECT 48;
```
When you write a SQL statement, the semicolon is optional. This means that you can omit it.

SELECT This AS

When you execute a SQL statement in the Query window, its results are displayed in a spread sheet. To be able to recognize a value, the top section of a column of the spread sheet displays a label, called a caption. For example, the above would produce:
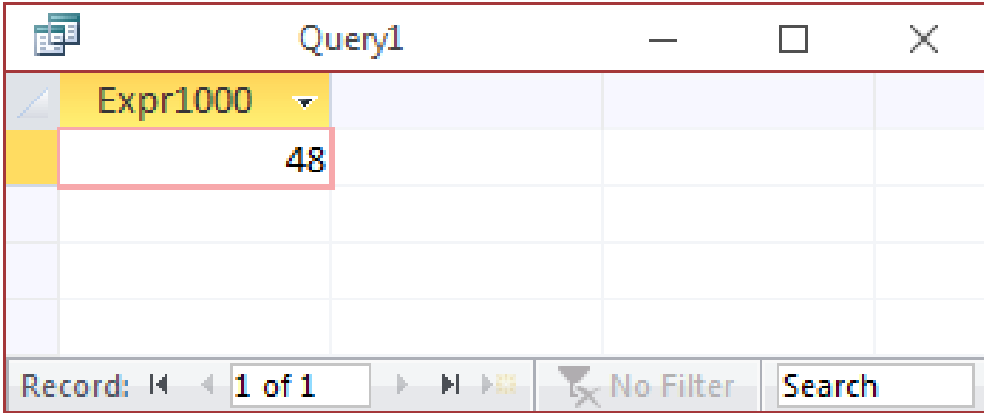
Figure 1.4 value selection

If you create a simple **SELECT** *Value*; Microsoft Access assigns a default caption to the column. The SQL allows you to specify a caption that would be used for the value. This is done using the following basic formula:

```
SELECT Value as Caption;
```
The words, "**SELECT**" and "**AS**" are required. As mentioned already, "**SELECT**" would be used to specify a value and "**AS**" in this case allows you to specify a caption of your choice.

The caption can be made of a word but the word cannot be one of the SQL's keywords. Here is an example:

```
SELECT 48 AS Age;
```
This would produce:
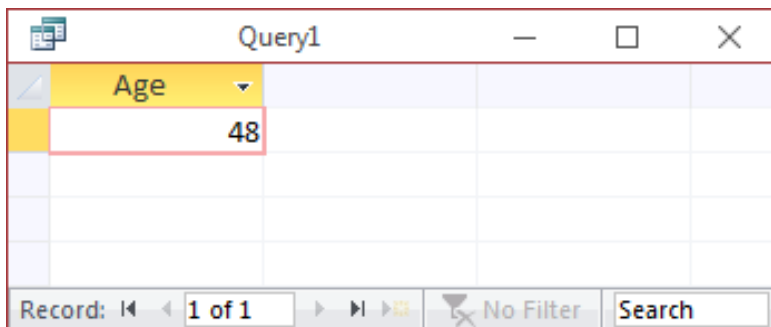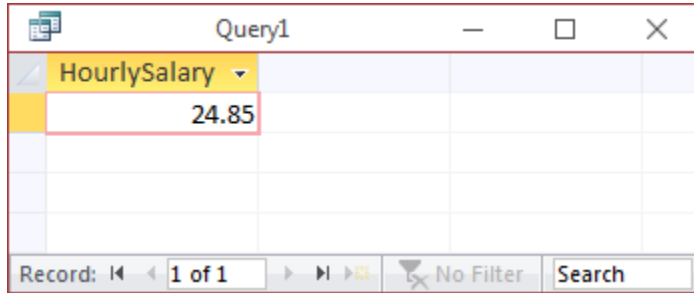
Figure 1.5 24.85 selection

You can also use non-literal characters or digits in the caption. If the caption is made of a combination of words, you can concatenate them to create one word. Here is an example:

```
SELECT 24.85 AS Hourly Salary;
```
This would produce:
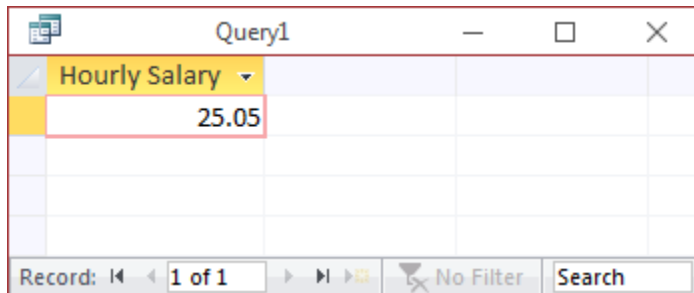
If you want the caption to display different words, you can include them between an opening square bracket "[" and a closing bracket "]". Here is an example:

```
SELECT 25.05 AS [Hourly Salary];
```
This would produce:

Figure 1.7 25.05 selection

Instead of displaying one column, you may want to display more. To do this, separate them with commas. Here is an example:

```
SELECT 42.50 AS [Weekly Hours], 25.05 AS [Hourly Salary];
```
This would produce:

Besides a number, the value of a **SELECT** expression can be a string. If it is, you can include it between single-quotes. Here is an example:

```
SELECT 'Martens, Laurent' AS [Employee Name];
```

In the same way, you can mix number-based and string-based columns.

1.2.5 SQL as Data Definition Language

The structured query language comes in two broad parts. The data definition language (DDL) is the SQL part used to create the objects of a database.

1.2.6 Forms Fundamentals

A form is a rectangular object that hosts other objects and allows a database user, also called a user, to interact with the application. There are various ways you can create a form. If you want to immediately use the form, on the Ribbon, click Create. In the Forms section, click Form View.

If you want to prepare the form to receive other objects, this is referred to as design. To open a form for design, on the Ribbon, click Create. In the Forms section, click Form Design. When a form is in design, you can add objects to it.

Practical Example

As you work through the following section it would be useful to try out the processes described so that you gain experience of using the database.

1.2.7 Opening a form to view

The Form View is the view used for regular operations on a form. To open a form in Form View:

In the navigation panel:

- ☐ Double-click the name of the form
- ☐ Right-click the form and click Open

If the form is opened in another type of view:

- ☐ In the navigation Pane, double-click the name of the form.
- ☐ On the Ribbon, click Home, Design, or Datasheet (this depends on the type of view). In the Views section (on the left of the Ribbon), click the arrow button under View, and click Form View.
- ☐ On the status bar, click the Form View button.

Figure 1.9 form view button

1.2.8 Opening a Form for Design

The design of a form is done by displaying the object in Design View. To present a form in Design View:

If the form is currently closed, in the Navigation Pane, right-click the form and click Design View

If the form is currently opened:

- ☐ In the Navigation Pane, right-click the form and click Design View
- ☐ Right-click its title bar or tab and click Design View
- ☐ Right-click it (somewhere on its body) and click Design View
- ☐ On the Ribbon, click Home. In the Views section, click the arrow button under View and click Design View
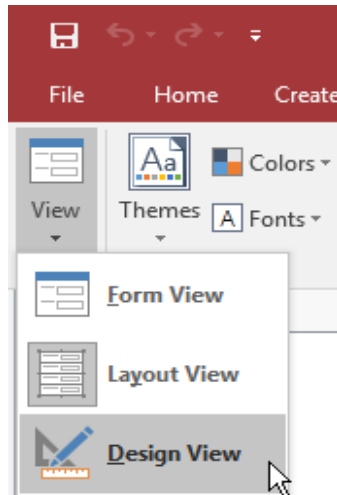
Figure 1.10 design view

⬜ On the right side of the status bar, click the Design View button

Figure 1.11 design view button

1.2.9 The Form View

If the form is currently displaying in Design View and you want to switch it to Form View:

In the Navigation Pane:

⬜ Double-click the name of the same form
⬜ Right-click the name of the same form and click Open

On the Ribbon, click either Design or Home, in the Views section:

⬜ Click the View button
⬜ Click the down-pointing button under View and click Form View

To start a simple report, on the Ribbon, click Create. In the Reports section, click Report View. To start a report that will host some objects, which referred to as design, on the Ribbon, click Create. In the Reports section, click Report Design. If the report is currently closed or it displays in another view, you can switch the view using the same techniques applied to a form.

1.3.1 The Detail section

The Detail section is the primary host of the controls on a form or report. The section is primarily characterized by its height. To visually change the height of the Detail section, click and drag the lower border of the Detail section:
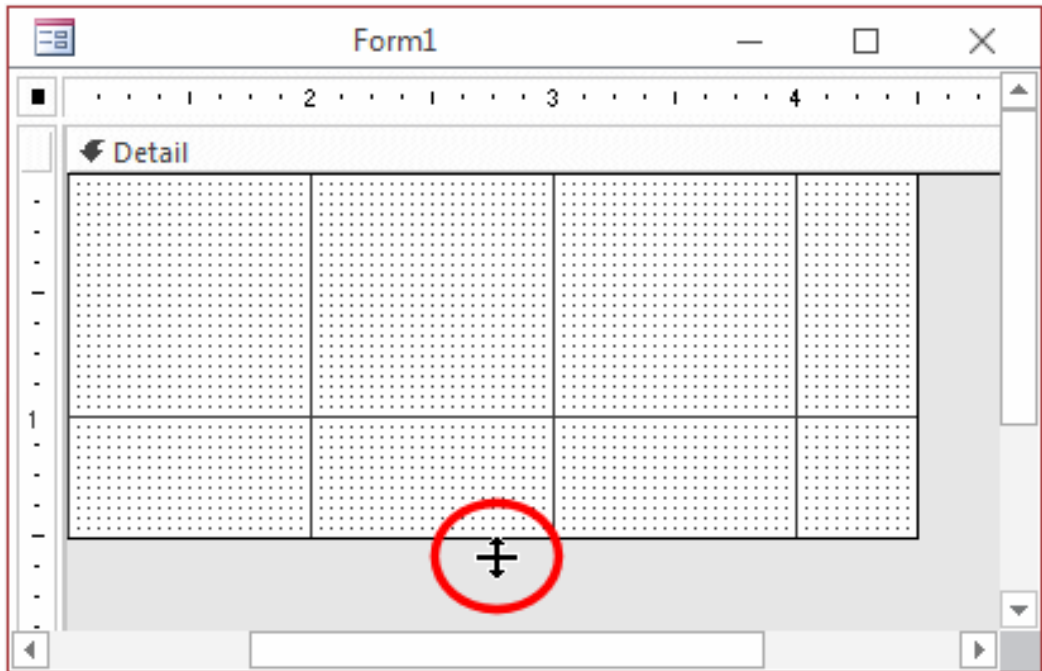
Figure 1.12 lower border drags

The Structured Query Language (SQL)

A form can be equipped with a Form Header and a Form Footer sections. To add these sections, right-click the middle of the form and click **Form Header/Footer**:
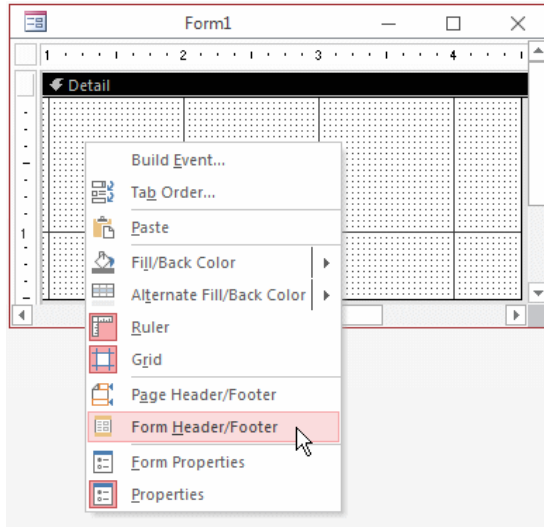
Figure 1.13 form header/ footer selection
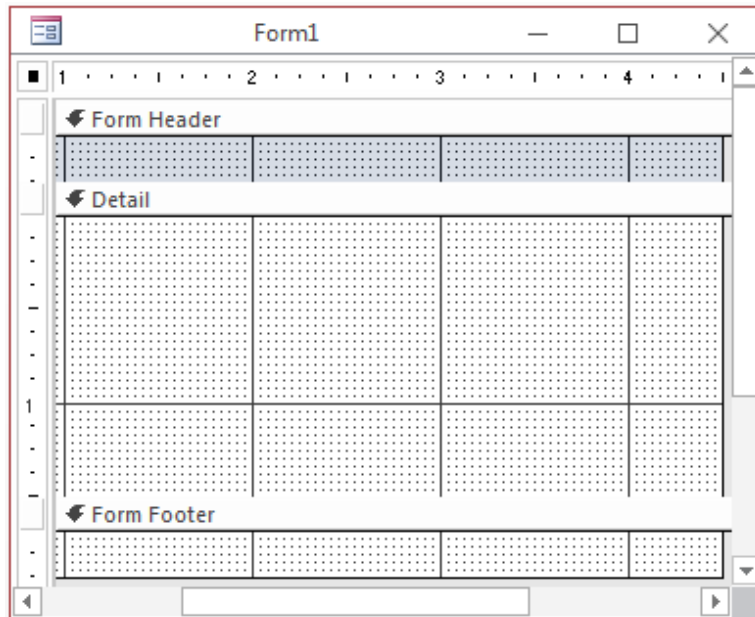
Figure 1.14 report header/ footer selection

A report can be equipped with a Report Header and a Report Footer section. To add these sections, right-click the body of the report and click **Report Header/Footer**:
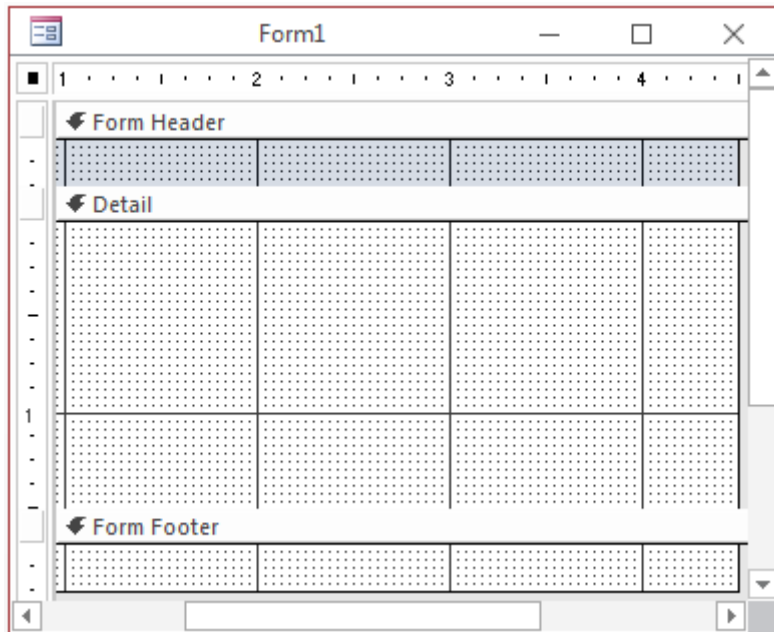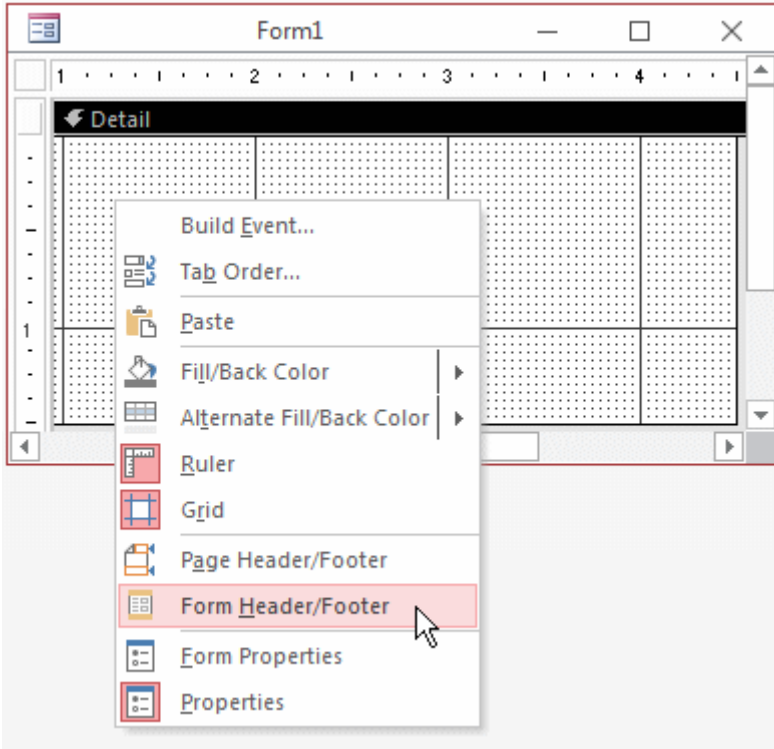
Figure 1.15 report header and footer selection.

You can increase the height of a section or reduce the height, sometimes completely. This allows you to keep one section and hide the other.

1.4 The Size of a Form or Report

1.4.1 The Width of a Form or Report

The width of a form or that of a report is the distance from its left border to its right border. All sections use the same width. To widen or narrow a form or report, click and drag the right border:
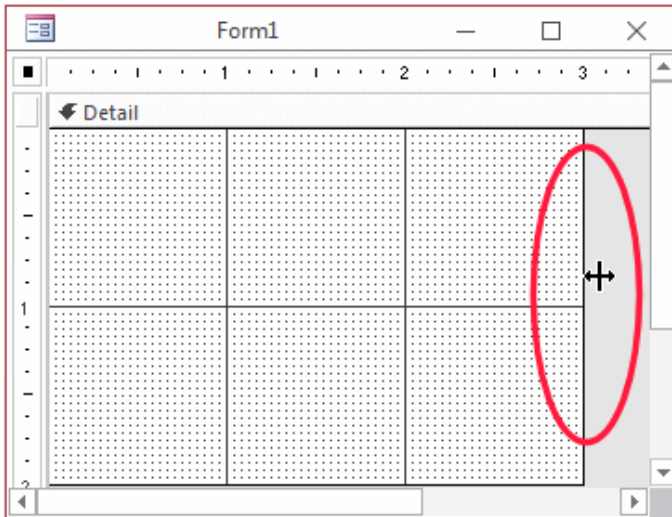
Figure 1.16 widening and narrowing selection

1.4.2 The Height of a Form or Report

The height of a form or report is controlled by its sections.

1.4.3 The Width and Height of a Form or Report

To change both the width and the height of a form or report at the same time, position the mouse on the lower-right corner:
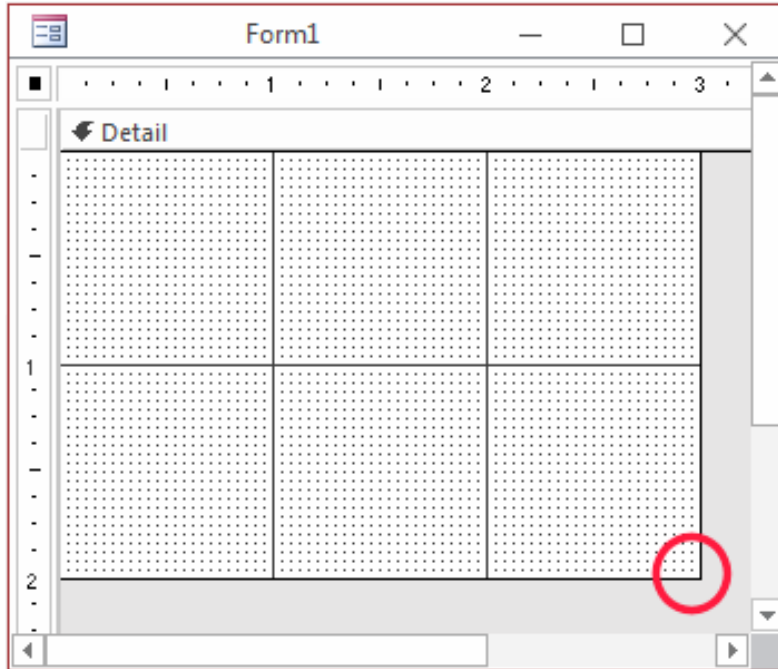
Figure 1.17 drag left, right, up, down, or diagonally

Then click and drag left, right, up, down, or diagonally.

1.4.4 Automatically Sizing the Form to Fit Its Content

If you want to resize a form enough to show its whole content, on the Ribbon, click Home. In the Window section, click Size to Fit Form.

1.5 Visually Creating a Microsoft Access Database

There are various ways you can create a database. To visually start a database from scratch, after launching Microsoft Access, click Blank Desktop Database. In the right section, accept or change the name of the database.

If you want to create a contemporary database, either omit or add the **.accdb** extension. If you want to create a database that is compatible with earlier versions of Microsoft Access, you must add the extension **.mdb**.

After specifying the name, to specify a folder of your choice, under File Name and on the right side of the name of the database, click the Browse button . This would open the File New Database dialog box. You can click the arrow of the Save In combo box to select a drive such as (A:), (C:), etc.

After selecting the drive, you can either select an existing folder or create a new folder by clicking the Create New Folder button on the right side of the Save In combo box. You can also use a directory on the network as the repository of the new database.

1.5.1 Create a database by using a template

Access comes with a variety of templates that you can use as-is or as a starting point. A template is a ready-to-use database that contains all the tables, queries, forms, macros, and reports needed to perform a specific task. For example, there are templates that you can use to track issues, manage contacts, or keep a record of expenses. Some templates contain a few sample records to help demonstrate their use.

If one of these templates fits your needs, using it is usually the fastest way to get a database started. However, if you have data in another program that you want to import into Access, you might decide it is better to create a database without using a template. Templates have a data structure already defined, and it might require a lot of work to adapt your existing data to the template's structure.

1. If you have a database open, on the **File** tab, click **Close**. Backstage view displays the **new** tab.
2. Several sets of templates are available in the **new** tab, some of which are built into Access. You can download additional templates from Office.com. See the next section in this article for details.
3. Select the template that you want to use.
4. Access suggests a file name for your database in the **File Name** box — you can change the file name, if you want. To save the database in a different folder from the one displayed below the file name box, click, browse to the folder in which you want to save it, and then click **OK**. Optionally, you can create and link your database to a SharePoint site.

   Note: Although they both use SharePoint, a desktop database linked to a SharePoint site is not the same as a web database using Access Services. To use a desktop database, you must have Access installed. A web database can be used with a web browser.
5. Click **Create**.
   Access creates a database from the template that you chose, and then opens the database. For many templates, a form is displayed in which you can begin entering data. If your template contains sample data, you can

delete each record by clicking the record selector (the shaded box or bar just to the left of the record), and then doing the following:

On the **Home** tab, in the **Records** group, click **Delete**. ✕

6. To begin entering data, click in the first empty cell on the form and begin typing. Use the Navigation Pane to browse for other forms or reports that you might want to use. Some templates include a navigation form which allows you to move between the different database objects.

Practical Example

As you work through the following section it would be useful to try out the processes described so that you gain experience of using the database.

1.5.2 Create a blank database

1. On the **File** tab, click **New**, and then click **Blank Database**.
2. Type a file name in the **File Name** box. To change the location of the file from the default, click **Browse for a location to put your database** 📂 (next to the **File Name** box), browse to the new location, and then click **OK**.
3. Click **Create**.
   Access creates the database with an empty table named Table1, and then opens Table1 in Datasheet view. The cursor is placed in the first empty cell in the **Click to Add** column.
4. Begin typing to add data, or you can paste data from another source, as described in the section Copy data from another source into an Access table.

Entering data in Datasheet view is designed to be very similar to working in an Excel worksheet. The table structure is created while you enter data. When you add a new column to the datasheet, a new field is defined in the table. Access automatically sets each field's data type, based on the data that you enter.

If you do not want to enter data in Table1 at this time, click **Close** ✕. If you made any changes to the table, Access prompts you to save the changes. Click **yes** to save your changes, click **No** to discard them, or click **Cancel** to leave the table open.

1.5.3 Add a table

You can add new tables to an existing database by using the commands in the **Tables** group on the **Create** tab.
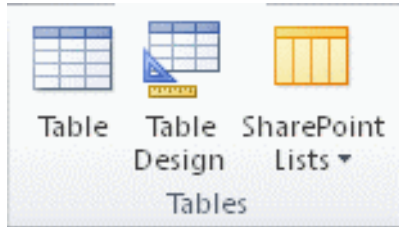
Create a table, starting in Datasheet view   In Datasheet view, you can enter data immediately and let Access build the table structure behind the scenes. Field names are assigned numerically (Field1, Field2, and so on), and Access automatically sets each field's data type, based on the data you enter.

1. On the **Create** tab, in the **Tables** group, click **Table**.
   Access creates the table and selects the first empty cell in the **Click to Add** column.
2. On the **Fields** tab, in the **Add & Delete** group, click the type of field that you want to add. If you do not see the type that you want, click **More Fields** .
3. Access displays a list of commonly used field types. Click the field type that you want, and Access adds the new field to the datasheet at the insertion point.
   You can move the field by dragging it. When you drag a field in a datasheet, a vertical insertion bar appears where the field will be placed.
4. To add data, begin typing in the first empty cell, or paste data from another source, as described in the section Copy data from another source into an Access table.
5. To rename a column (field), double-click the column heading, and then type the new name.
   You should give a meaningful name to each field, so that you can tell what it contains when you see it in the **Field List** pane.
6. To move a column, click its heading to select the column, and then drag the column to the location that you want. You can also select multiple contiguous columns and then drag them to a new location all at once. To select multiple contiguous columns, click the column header of the first column, and then, while holding down SHIFT, click the column header of the last column.

Practical Example

As you work through the following section it would be useful to try out the processes described so that you gain experience of using the database.

1.5.4 Create or Modify a Table in Design View

1. Click the **Create** tab, and then click the **Table Design** button, or select the table you want to modify in the Navigation pane, and then click the **Design View** button.
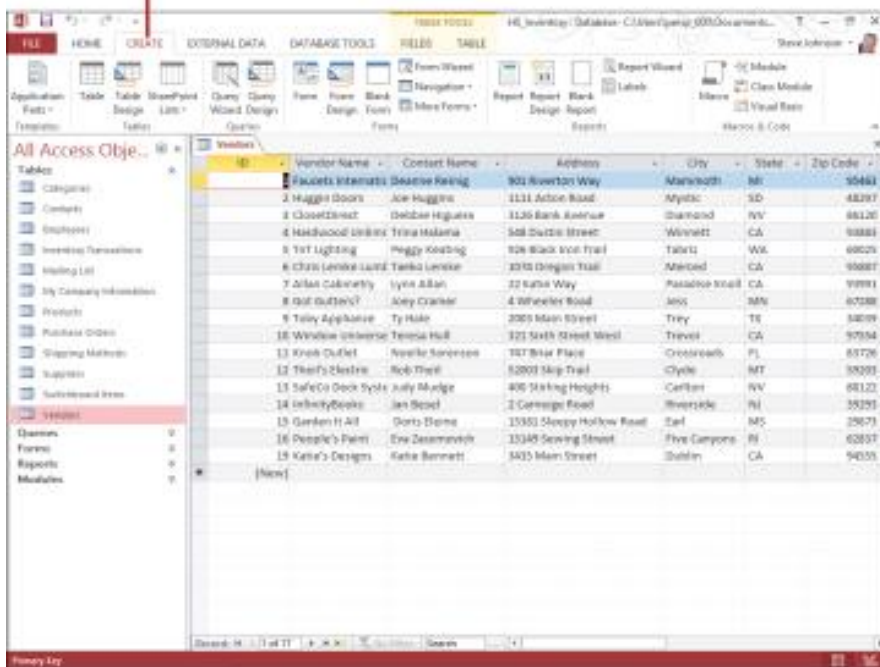
Figure 1.18 create selection

2. Click in a **Field Name** cell, and then type a modified field name.
3. Click in a **Data Type** cell, click the Data Type list arrow, and then click a data type.
4. Click in a **Description** cell, and then type a description. If the **Property Update Options** button appears, select an option, if necessary.
5. To insert a field, click the row selector below where you want the field, and then click the **Insert Rows** button on the Ribbon.

6. To delete a field, click the row selector for the field you want to delete, and then click the **Delete Rows** button on the Ribbon.
7. Click the **Save** button on the Quick Access Toolbar, and then if necessary, enter a table name and click **OK**.

Activity 1.5: (creating related tables)

Follow the steps below:

Go ahead and create two tables as follows.

Customers	Products	
Field Name	**Data Type**	
🔑 ProductId	AutoNumber	
ProductName	Short Text	
Price	Currency	
DateCreated	Date/Time	

Orders	
Field Name	**Data Type**
🔑 OrderId	AutoNumber
CustomerId	Number
ProductId	Number
DateCreated	Date/Time

Be sure to set a format and default value for the `DateCreated` fields on both tables (the user should not need to enter this field - the system can do that).

General	Lookup	
Format	General Date	
Input Mask		
Caption		
Default Value	=Now()	...
Validation Rule		
Validation Text		
Required	No	
Indexed	No	
IME Mode	No Control	
IME Sentence Mode	None	
Text Align	General	
Show Date Picker	For dates	

Key icon indicates that the field is a primary key. A primary key ensures that the data in this field is unique - no two values can be the same. A table must have a primary key before a relationship can be established with another table. Access

automatically sets the `ID` field as a primary key, so as long as you simply rename `ID` to `ProductId` (or `OrderId` as the case may be) it will already be a primary key. If for some reason your table does not have a primary key set, or if you want to change the primary key field, you can simply right click on the field header (in Design view), and select `Primary Key` from the contextual menu.

Establishing the Relationship

Now that you have created two extra tables, our database has three tables. Now it is time to create the relationship between all three tables.

1. While viewing a table in Design view, and ensuring that the DESIGN tab is selected, click Relationships from the Ribbon:
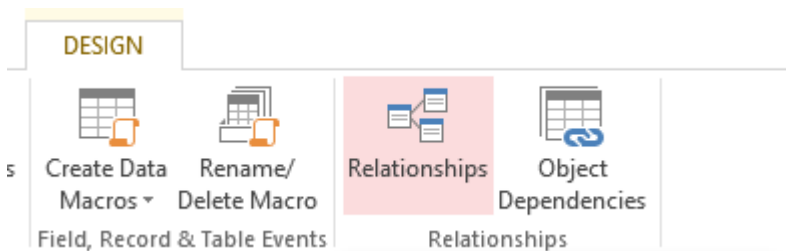
Figure 1.19 relationship selection

2. A Show Table dialog box will pop up, displaying all three tables. Select all of them and click Add:
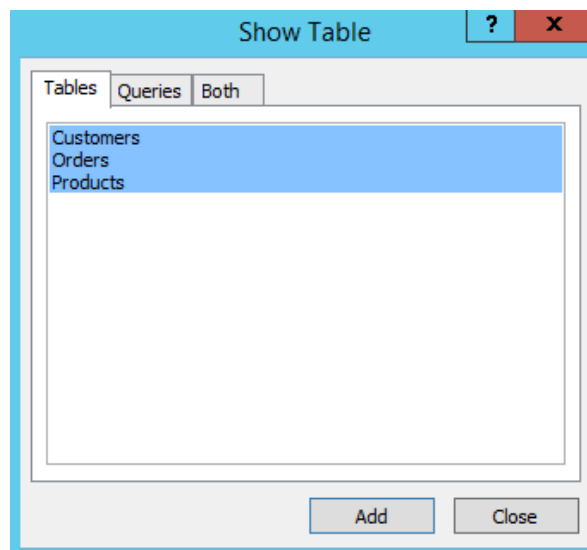
Figure 2.0 tables selection

3. Click `Close` to close the dialog box
4. You will now see three boxes which represent your three tables. Click and drag the `CustomerId` from the `Customers` table across to the corresponding `CustomerId` field on the `Orders` table:
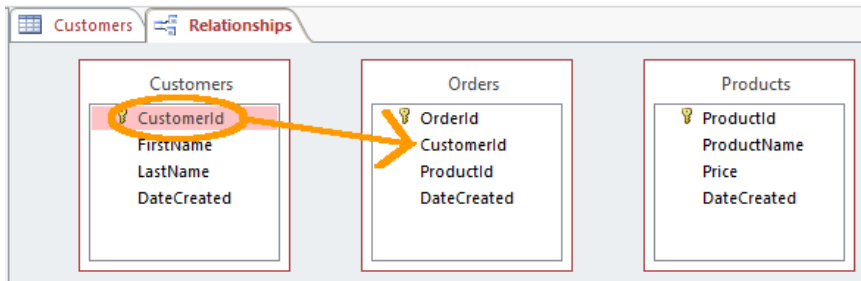
Figure 2.1 CustomerId selection

It would be good to add some data and check that the database works as intended and to correct it if necessary.

5. The `Edit Relationships` dialog will pop up. Click `Enforce Referential Integrity` so that it is checked. Check that the values are the same as the following screenshot and click `OK`:
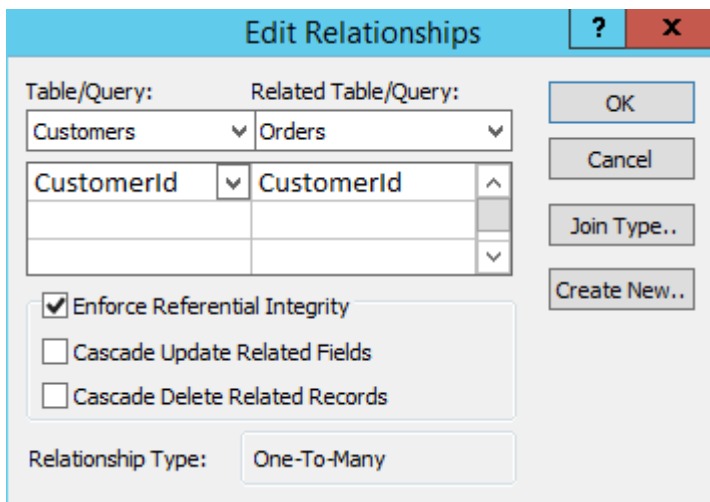
Figure 2.2 edit relationships selection

You will now see a line established between the `CustomerId` field on the `Customers` table and the `CustomerId` on the `Orders` table.

6. Now do the same for the `Products` table. That is, click and drag the `ProductId` from the `Products` table across to the corresponding `ProductId` field on the `Orders` table. Your table relationships should look like the ones in the following screenshot:
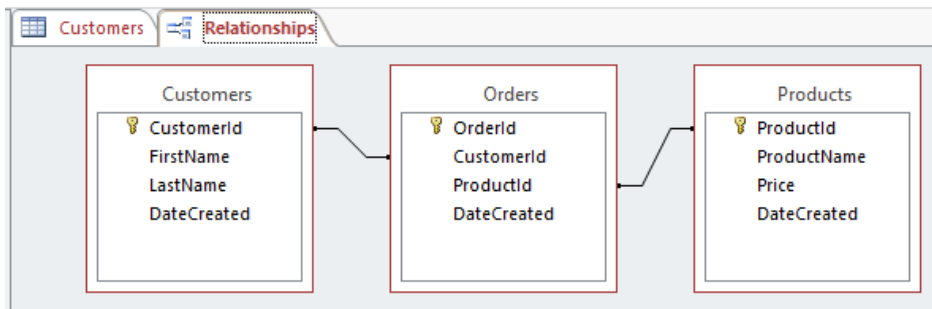
Figure 2.2 products table selection

1.6 Microsoft Access SQL queries

1.6.1 Database Relations and Normalization

Imagine you are running a company selling 50 different types of widgets all over the world. You have a client base of 1,250 and in an average month sell 10,000 widgets to these clients. You are currently using a single spread sheet to track all of these sales – effectively a single database table. And every year adds thousands of rows to your spread sheet.

	Date of Sale	Order Number	Item SKU	Item Description	Weight (lbs)
1					
2	1/4/2015	54885	WIDG-42	Widget Type 42	0.4
3	1/4/2015	54885	WIDG-12	Widget Type 12	12.5
4	1/5/2015	54886	WIDG-17	Widget Type 17	5.2
5	1/5/2015	54886	WIDG-35	Widget Type 35	4.1

Quantity	Unit Price	Client Name	Client Address	Date Shipped
7	7.99	Fred Jones	123 Sunny Lane, Los Angeles, CA	1/6/2015
2	74.99	Fred Jones	123 Sunny Lane, Los Angeles, CA	1/6/2015
6	119.99	Joan Smith	Rte 32, Box 70, Portland, ME	1/6/2015
25	12.99	Joan Smith	Rte 32, Box 70, Portland, ME	1/6/2015

Figure 2.4 images of the order tracking spreadsheet you are using

The above images are part of the order tracking spreadsheet you are using. Now say both of these clients buy widgets from you several times a year so you have far more rows for both of them.

If Joan Smith marries Ted Baines and takes his surname, every single row that contains her name now needs to be changed. The problem is compounded if you happen to have two different clients with the name 'Joan Smith'. It has just become much harder to keep your sales data consistent due to a fairly common event.

By using a database and normalizing the data, we can separate out items into multiple tables such as inventory, clients, and orders.
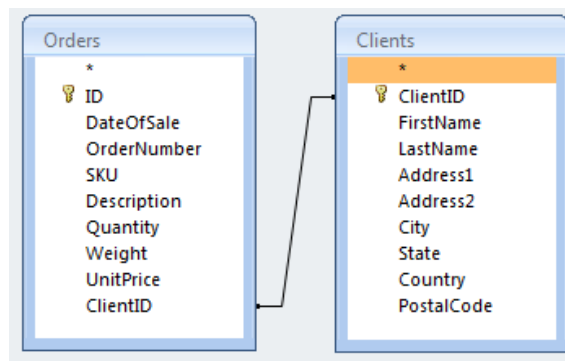
Figure 2.5 orders and client table

Just looking at the client portion of our example, we would remove the columns for Client Name and Client Address and put them into a new table. In the image above, things have broken up for a better granular access to the data. The new table also contains a column for a Primary Key (Client ID) – a number that will be used to access each row in this table.

In the original table where we removed this data, we would add a column for a Foreign Key (Client ID) which is what links to the proper row containing the information for this particular client.

Now, when Joan Smith changes her name to Joan Baines, the change only needs to be made once in the Client table. Every other reference from joined tables will pull the proper client name and a report that is looking at what Joan has purchased for the last 5 years will get all of the orders under both her maiden and married names without having to change how the report is generated.

As an added benefit, this also reduces the overall amount of storage consumed.

1.6.2 Join Types

A join clause combines columns from one or more tables in a relational database.

SQL defines five different types of joins: INNER, LEFT OUTER, RIGHT OUTER, FULL OUTER, and CROSS. The OUTER keyword is optional in the SQL statement.

Microsoft Access allows the use of INNER (default), LEFT OUTER, RIGHT OUTER, and CROSS. FULL OUTER is not supported as such, but by using LEFT OUTER, UNION ALL, and RIGHT OUTER, it can be faked at the cost of more CPU cycles and I/O operations.

The output of a CROSS join contains every row of the left table paired with every row of the right table. The only time one can see a CROSS join used is during load testing of database servers.

Example

Let us start by creating two tables, ProdA and ProdB, with the following design properties.

Field Name	Data Type
ProductID	AutoNumber
ProductName	Text

The AutoNumber is an automatically incrementing long integer assigned to entries as they are added to the table. The Text option was not modified, so it will accept a text string up to 255 characters long.

Now, populate them with some data.

ProductID	ProductName	ProductID	ProductName
2	Atwo	1	Bone
3	Athree	2	Btwo
4	Afour	3	Bthree
6	Asix	4	Bfour
7	Aseven	5	Bfive
9	Anine	6	Bsix
10	Warthog	7	Bseven
11	Aeleven	8	Beight
		9	Bnine
		10	Bten

To show the differences in how the 3 join types work, delete entries 1, 5, and 8 from ProdA.

ProdA

*

⚷ ProductID
ProductName

ProdB

*

⚷ ProductID
ProductName

Show Table   ？ ☒

| Tables | Queries | Both |

ProdA
ProdB

Add   Close
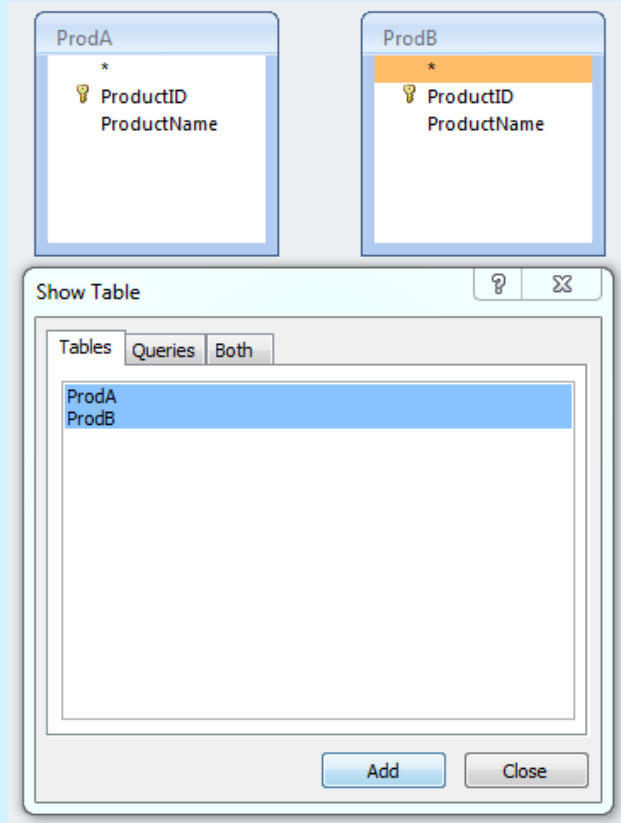
Next, create a new query by going to **Create > Query Design**. Select both tables from the Show Table dialog and **click add**, and then **Close**.

Click on ProductID in table ProdA, drag it to ProductID in table ProdB and release the mouse button to create the relationship between the tables.

ProdA

*

⚷ ProductID
ProductName

ProdB

*

⚷ ProductID
ProductName
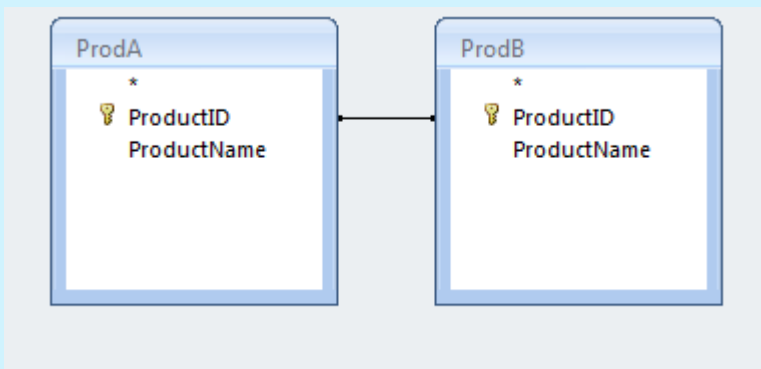
Right-click on the line between the tables representing the relationship between the items and **select Join Properties**.
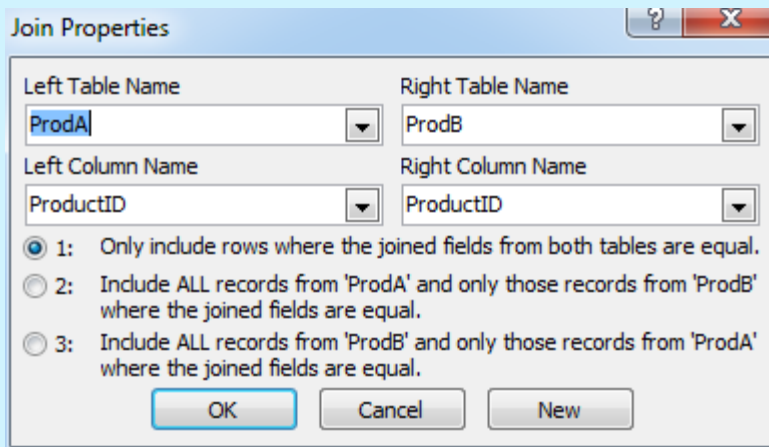
By default, join type 1 (INNER) is selected. Option 2 is a LEFT OUTER join and 3 is a RIGHT OUTER join.

We will look at the INNER join first, so click OK to dismiss the dialog.

In the query designer, select the fields we want to see from the drop-down lists.

When we run the query (the red exclamation point in the ribbon), it will show the Product Name field from both tables with the value from table ProdA in the first column and ProdB in the second.

Notice the results only show values where ProductID is equal in both tables. Even though there is an entry for ProductID = 1 in table ProdB, it does not show up in the results since ProductID = 1 does not exist in table ProdA. The same applies to ProductID = 11. It exists in table ProdA but not in table ProdB.
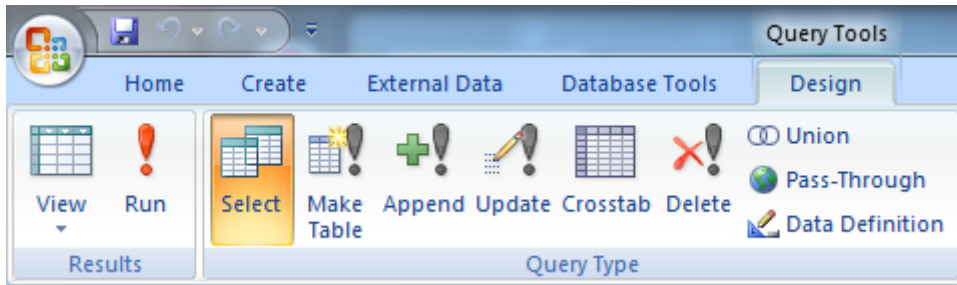
By using the View button on the ribbon and switching to SQL View, you can see the SQL query generated by the designer used to get these results.

```
SELECT ProdA.ProductName, ProdB.ProductName FROM ProdA INNER JOIN
ProdB ON ProdA.ProductID = ProdB.ProductID;
```

Going back to Design View, change the join type to 2 (LEFT OUTER). Run the query to see the results.

ProdA.ProductName	ProdB.ProductName
Atwo	Btwo
Athree	Bthree
Afour	Bfour
Asix	Bsix
Aseven	Bseven
Anine	Bnine
Warthog	Bten
Aeleven	

Figure 2.6 products A and B represented

As you can see, every entry in table ProdA is represented in the results while only the ones in ProdB that have a matching ProductID entry in table ProdB show up in the results.

The blank space in the ProdB.ProductName column is a special value (NULL) since there is not a matching value in table ProdB. This will prove important later.

```
SELECT  ProdA.ProductName,  ProdB.ProductName  FROM  ProdA  LEFT  JOIN
ProdB ON ProdA.ProductID = ProdB.ProductID;
```

Figure 2.7 product table

Try the same thing with the third type of join (RIGHT OUTER).

The results show everything from table ProdB while it is showing blank (known as NULL) values where the ProdA table does not have a matching value. So far, this brings us closest to the results desired in our reader's question.

```
SELECT ProdA.ProductName, ProdB.ProductName FROM ProdA RIGHT JOIN
ProdB ON ProdA.ProductID = ProdB.ProductID;
```

1.6.3 Using Functions in a Query

The results of a function may also be returned as part of a query. We want a new column named 'Results' to appear in our result set. Its value will be the content of the ProductName column of table ProdA if ProdA has a value (it is not NULL), otherwise it should be taken from table ProdB.

The Immediate IF (IIF) function can be used to generate this result. The function takes three parameters. The first is a condition that must evaluate to a True or False value. The second parameter is the value to be returned if the condition is true, and the third parameter is the value to be returned if the condition is False.

The full function construct for our situation looks like this:

```
IF (ProdA.ProductID Is Null, ProdB.ProductName, ProdA.ProductName)
```

Notice that the condition parameter does not check for equality. A Null value in a database does not have a value that can be compared to any other value, including

another Null. In other words, Null does not equal Null. Ever. To get past this, we instead check the value using the 'Is' keyword.

We could have also used 'Is Not Null' and changed the order of the True and False parameters to get the same result.

When putting this into the Query Designer, you must type the entire function into the Field: entry. To get it to create the column 'Results', you need to use an alias. To do this, preface the function with 'Results:' as seen in the following screenshot.

Field:	ProductName	ProductName	Results: IIf(ProdA.ProductID Is Null,ProdB.ProductName,ProdA.ProductName)
Table:	ProdA	ProdB	
Sort:			
Show:	✓	✓	✓
Criteria:			

Figure 2.8 product name selection

The equivalent SQL code to do this would be:

```
SELECT ProdA.ProductName, ProdB.ProductName, IF (ProdA.ProductID Is
Null,ProdB.ProductName,ProdA.ProductName)  AS  Results  FROM  ProdA
RIGHT JOIN ProdB ON ProdA.ProductID = ProdB.ProductID;
```

Now, when we run this query, it will produce these results.

ProdA.ProductName	ProdB.ProductName	Results
	Bone	Bone
Atwo	Btwo	Atwo
Athree	Bthree	Athree
Afour	Bfour	Afour
	Bfive	Bfive
Asix	Bsix	Asix
Aseven	Bseven	Aseven
	Beight	Beight
Anine	Bnine	Anine
Warthog	Bten	Warthog

Figure 2.9 query results

Here we see for each entry where table ProdA has a value, that value is reflected in the Results column. If there isn't an entry in the ProdA table, the entry from ProdB appears in Results

Activity 1.6 : Creating An Address Database.

Follow the steps as unit overview on creating a database.

Creating a Table

1. Click the *Tables* tab in the database window.
2. Click *New*.
3. The New Table Wizard appears.
4. Select *Table Wizard* and click *OK.*
5. Select the Personal toggle located above the Sample Tables column. Select *Addresses* from the Sample Tables column (left click once to highlight.)
6. Select *First Name* from the Sample Fields column (click once to highlight the selection.) Click the right pointing arrow button or double click the selection to add it to the Fields in My New Table column.
7. Repeat step #6 with *Last Name, Address, City, State, Postal Code,* and *Home Phone Number* from the Sample Fields column.
8. Click *Next*.
9. The Table Wizard offers the name "Addresses" for your table; we'll keep that name. (On this same screen, there is a "YES" default for setting a Primary Key). Click *Next*.
10. Click *Finish* and view your new table.
11. Close the "Addresses" table (Click the X in the top right corner of the table window.)

Entering Table Data

1. Click the *Tables* tab in the database window.
2. Double click *Addresses* to open the table we have created. In the table fields, ignore the one labeled Addresses ID for now.
3. Press the right arrow key or tab key and enter these field values, pressing enter after each value:

First	Last Name	Address	City	State	ZIP	Phone #
Betty	Bop	Akobo	Jonglei	SS	72213	(+211) 005555
Daffy	Duck	Buragwa	Jonglei	SS	72213	(+211)119999
Mickey	Mouse	Korial	Jonglei	SS	72213	(+211)225555

4. Click **Save** and close the table.

Creating a Form

1. Click the **Forms** tab in the database window.
2. Click **New**.
3. The New Form Window appears.
4. Select **Form Wizard** and click **OK**.
5. Click the two right pointing arrows button to move all the fields over to the right side of the window.
6. Select **Address ID** and click the left pointing arrow button to move it back over to the Available Field side of the window.
7. Click **Next**.
8. Select **Columnar**; Click **Next**. Select **Standard style**; Click **Next**.
9. The wizard offers "Addresses" for the form title, which is fine.
10. Click **Finish** and view the form.
11. Click the right pointing arrow button at the bottom of the form window (next to the Record: box). Click this arrow two more times and notice the entries. The form should be empty on the fourth record.
12. Click **Save** and close the form.

Entering Data into a Form

In Access, you can enter data into Tables or Forms. Let us use the form we just created to enter more data.

1. Click the **Forms** tab in the database window
2. Double click "Addresses" to open the form.
3. Click the right pointing arrow with a star button at the bottom of the form. The form should be on the fourth record, which is blank. Enter the following field values. Press the enter key or tab key after each entry to move to the next cell.

First Name	Last Name	Address	City	State	ZIP Code	Phone #
Sponge	Bob	Abwong	Upper Nile	SS	71100	(+211)440022

4. Betty Bop is spelled incorrectly. Click the left arrow with a line button at the bottom of the form. This will automatically take you to the first record.
5. Click the Last Name text box with the word "Bop." Click before the "p" and enter "o." It should now read "Boop."
6. Click **Save** and close the form.

7. Access should automatically update the table with the new form data. Click the *Tables* tab and double click *Addresses* to open the table
8. You should see the Sponge Bob record and the spelling correction of "Boop" in the table.
9. Click *Save*.
10. Close the table (click the X in the top right hand corner of the window.)

Queries

Let us find the people in our Address Book database that live in Houston. We are planning a last minute birthday party and need to call them immediately. We have four records in our database. If there were more records, it would be time consuming to go through all the addresses. Queries allow you to pluck only certain pieces of data out of your database. Let us make a query to find the people in our database that are located in Houston.

1. Click the *Queries* tab in the database window.
2. Click *New*.
3. The New Query Window appears. Select *Simple Query Wizard* and click *OK*
4. Click the downward pointing arrow on the right of the Tables/Queries: text box.
5. Select Table: *Addresses*.
6. Select *First Name, Last Name, City,* and *Home Phone* field values (click once to highlight the selection and then click the right pointing arrow or double click the selection) and move to the Selected Fields side of the window.
7. Click *Next.*
8. Under "What title do you want for your query?" type: **Houston** in the text box and click *Finish*.
9. The results are displayed. The records are displayed with four fields that were included in the search. We only want the records that include the city Houston. We have a little more work to do.
10. Select query **Houston** already created. Click on *Design icon* on the toolbar to look at the query in Design View.
11. At the bottom half of the screen there is a grid. Under the City column and along the Criteria row, we want to type: **Houston** in that cell. We are making a query, which looks for only those records that include Houston – not the friends that live in Humble, for example.
12. Click the *Run* tool (red exclamation point) on the tool bar to get the results of the query.
13. The records that include Houston are displayed. Now we know who to call and their phone number.
14. Click *Save* and close the database window.
15. Close Access.

MS Access Exercise

Create a database file, which will require you to create one table, one query, one form, and one report.

Create table: CUSTOMERS

Create the field names and their properties as you need them to store your specific data for customers. You will have at least five customers with their information included in your customer table.

CUSTOMERS Table Field Names:

Customer ID (Primary Key: CID)

First Name (FNAME)

Last Name (LNAME)

City (CITY)

State (STATE)

Number of Purchases (PNUMBER)

Total Amount of Purchases (PTOTAL)

Date of Last of Purchase (PLAST)

Create query: NY Customers

Create a query that displays only the MSA customers sorted by last name in ascending order.

Create report: NY Customers Report

Create a report from the NY Customers query.

Create form: New Customers

Create a form for the Customers table. Include all fields in the form. Use the Form Wizard to create a form. Using the New Customers form, enter two additional customers:

Mathieu Alfa Birir   NRB 3 $150.00 March 12, 2010

Jennifer Cherbich   MSA 2 $250.00 March 17, 2010

1.7 Integrated Library Management Systems

This is an enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed. Enterprise resource planning provides an integrated and continuously updated view of core business processes using common databases maintained by a database management system.
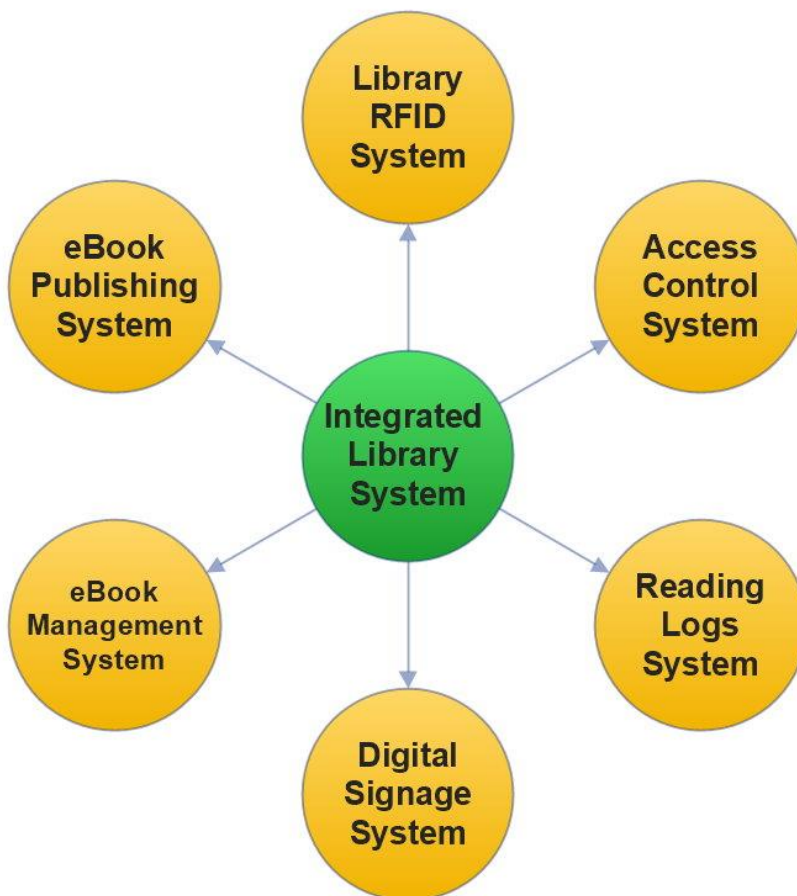
Figure 2.9 integrated library system (library Management system).

Larger libraries use an integrated library system to order and acquire, receive and invoice, catalogue, circulate, track and shelve materials. Smaller libraries, often forgo the expense and maintenance required to run an ILS, and instead use a library computer system.
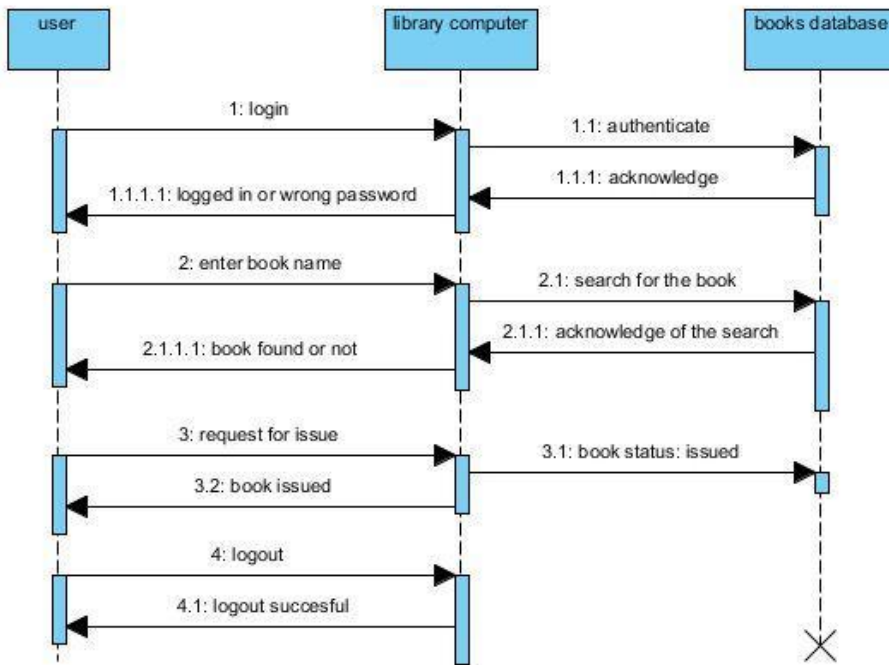
Figure 3.0 Sequence diagram for issuing book

An Integrated library system ILS usually comprises of a relational database, software to interact with that database, and two graphical user interfaces (one for patrons, one for staff). Most ILSes separate software functions into discrete programs called modules, each of them integrated with a unified interface. Examples of modules might include:

- Acquisitions (ordering, receiving, and invoicing materials)
- Cataloguing (classifying and indexing materials)
- Circulation (lending materials to patrons and receiving them back)
- Serials (tracking magazine, journals, and newspaper holdings)
- The OPAC (public interface for users)

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Review Exercise

1. Explain how you can import data from other sources into Access database?
2. What are the types of relationship can be formed between different data?
3. Explain how you can build a relationship between the different databases in Access?
4. Name some of the file extension for MS Access?
5. What are queries in database?
6. Explain what joins are and how you can open the database in Access?
7. Mention how you can create a simple query in Access 2013?
8. Explain how you can export data in Excel format?
9. Explain how you can create a form in Microsoft Access 2013?
10. In MS Access 2013 what are the different ways you can enter data?
11. Explain the use of WHERE clause in MS Access SQL?
12. Explain how you can do multi-join query in MS Access?
13. Explain how MS Access is better than MS SQL Server?
14. What things to be taken in consideration for lookup fields?

UNIT 2 ADVANCED FORMATTING TECHNIQUES

SPECIFIC LEARNING OUTCOMES

By the end of this unit you should;

- Know how to use advanced formatting techniques to edit and produce word-processing and presentation documents, e.g. MS Word and PowerPoint.
- Use advanced features in producing documents
- Be able to create and manage a complex document to a high quality standard

Key inquiry questions

1. What is advanced formatting?
2. What are functions and macros and how are they used?
3. How are templates created and used?
4. How is a table of contents for a document created?
5. How are diagrams, tables, and images included in documents?
6. How are hyperlinks incorporated into documents?
7. How are multimedia products produced?

1. Open or navigate to the MS Word (the version that is available to you) **interface**.
2. Click through all of the **tabs**, and review the **commands** on the **Ribbon**.
3. Try **minimizing** and **maximizing** the **Ribbon**.
4. Add a **command** to the **Quick Access toolbar**.
5. Hide and show the **Ruler**.
6. Navigate to **Backstage view**, and open your **Account settings**.
7. Try switching **document views**.
8. Close **Word** (you do not have to save the document).

Advanced formatting improves the readability of your documents and often provides visual clues to the document's purpose.

Advanced Formatting Techniques for example in Excel 2010, makes spreadsheet information readable and understandable, from emphasizing specific cells to adding style and readability to worksheets. It also covers automation techniques that take the work out of formatting even the largest amounts of data.

Activity 2.1: text editing and formatting

In pairs

Practise using all the text editing and formatting features of MS Word and MS PowerPoint.

Presentation

Develop a Power Point presentation demonstrating MS Word and MS PowerPoint capabilities.

1.0 Advanced formatting in MS word

Microsoft word is used to create and edit professional-looking documents such as resumes, books, admission forms, letters, papers, reports and booklets, cover pages, notes, assignments, brochures and even web pages, it includes a number of

automated tools to help standardize the formatting and layout of large, complex documents. There are times that call for a more sophisticated level of formatting in a MS word document, this seldom-used formatting trick adds an even higher level of professionalism in a document.

2.0.1 Creating table of contents

The best way to see the structure of the document is with the Navigation Pane. (In some versions of Word for Mac, it may be called the Document Map Pane.)

In Windows, go to the View tab, then click the check box to enable the Navigation Pane.

Practical Example

As you work through the following section it would be useful to try out the processes described so that you gain experience and build your skills in advanced formatting techniques.

2.0.2 Generating a Table of Contents Using Built-In Header Styles in Word

In Windows, go to the **References** tab on the ribbon, click the **Table of Contents** button on the left, and then choose one of the two built-in tables from the list. Note that the thumbnails show that Headings 1, 2 and 3 will be included.

It is almost the same on the Mac. Go to the **Insert** menu, choose **Index and Tables**, then pick one of the formats on the left and click **OK**. This dialog box also shows that Headings 1-3 will be included.
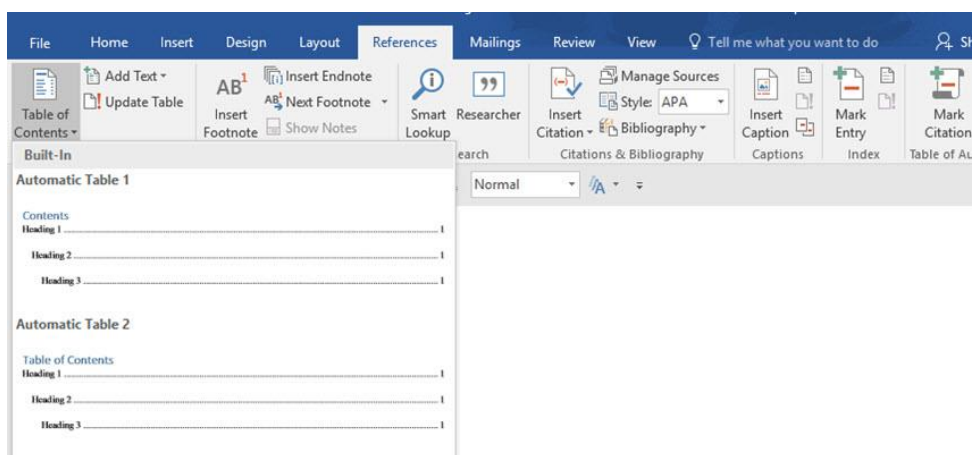
You can insert a table of contents in Word just by clicking one of the samples.

As soon as you choose one, the table of contents gets inserted starting on page 2, and Word automatically inserts a couple more pages, so it all fits. In Windows, you can Ctrl-click one of the items, and it will hyperlink to the item in the document.
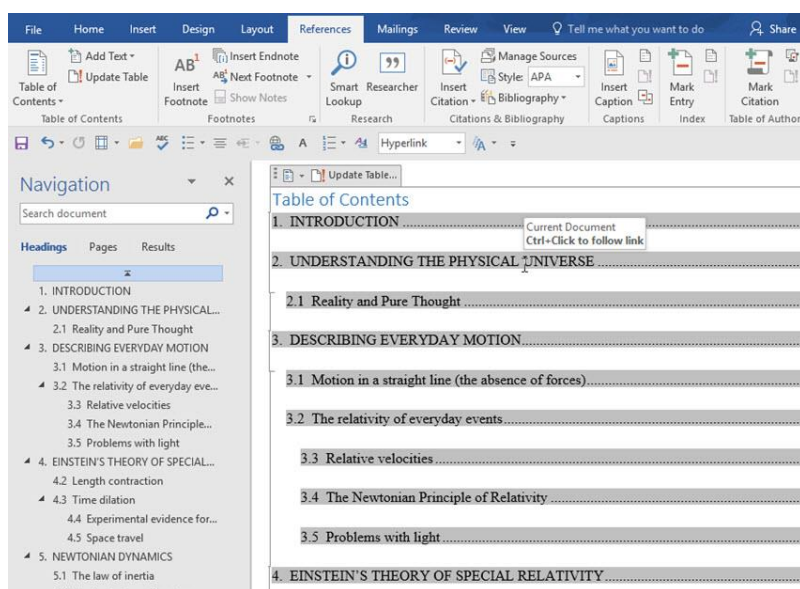
Figure 3.2 updating a table of contents

A table of contents is a field that you can update in MS Word. In Windows, fields have a grey background.

Before the Introduction, there is a *Preface* that should be included in the table of contents. And just before Appendix A1 is the heading for the *Appendix*, and that should also be included. But they were not, because they are both formatted with a custom style called *large heading*, and custom styles do not get included in the

default table of contents. The second method of creating table of contents in Word will fix that.

2.0.3 Creating a Table of Contents from Custom Styles in Word

Word can include any styles in a table of contents. We just have to tell it which ones to choose. And we can update the table, rather than having to delete it and start over.

In Windows, go back to the **References** tab, click the **Table of Contents** button, then near the bottom of the menu, and choose **Custom Table of Contents**. Click the **Options** button near the bottom of the dialog box to display the **Table of Contents Options** dialog box.

On the Mac, go to back to the **Insert** menu and choose **Index and Tables**. In the Table of Contents section, click the **Options** button. On the Mac or PC the **Table of Contents Options** dialog box shows that the Heading 1 style will have TOC level 1, the Heading 2 style will have TOC level 2, and the Heading 3 style will have TOC level 3.
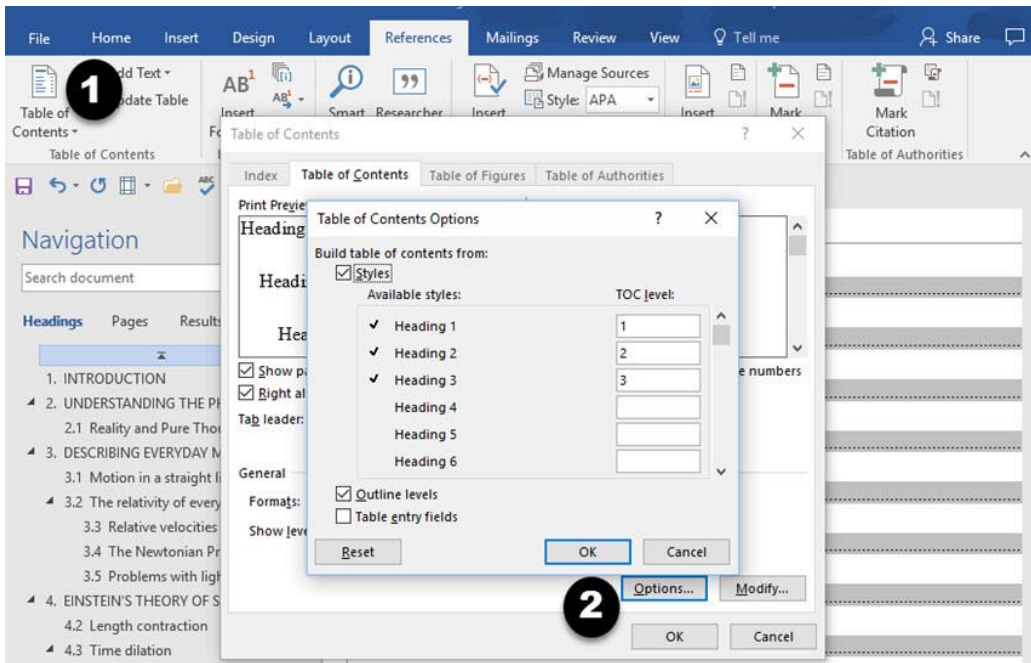
Figure 3.3 Creating a Table of Contents from Custom Styles

Word uses its built-in styles to determine what goes into the table of contents. (Windows example)

Scroll down to the bottom of the list (on the Mac, you will use the down slider). Then, in the box for **Large heading**, type a **1** to make it level 1. Table of Content levels can come from more than one style.
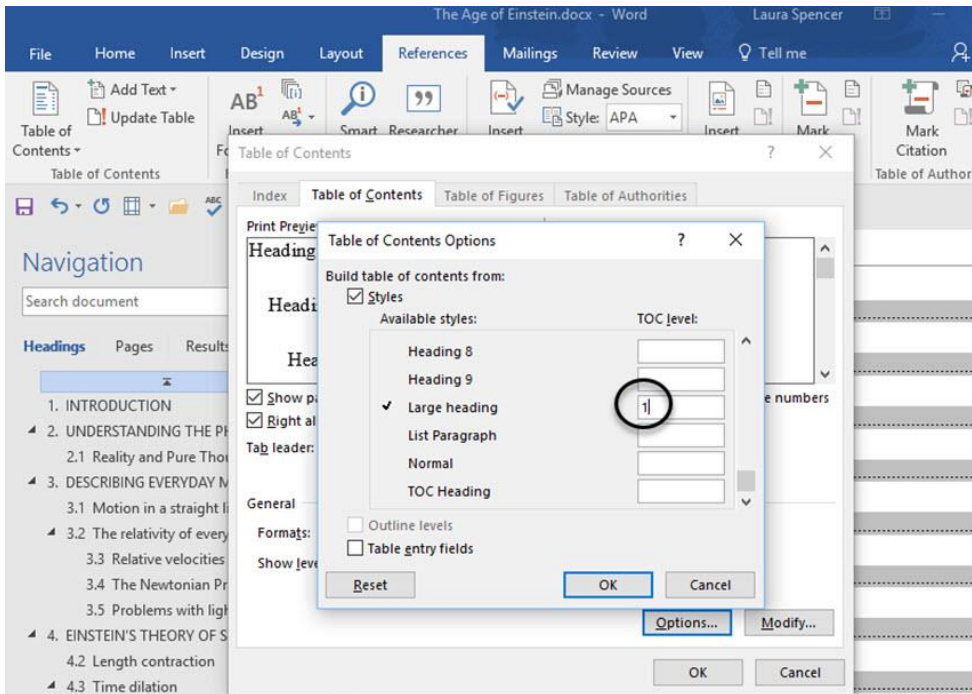
Figure 3.4 including a custom style in the table of contents

To include a custom style in the table of contents, assign a heading level to it.

Click **OK** in the **Table of Contents Options** dialog, then **OK** again in the **Table of Contents** dialog box. When Word displays a message asking if you want to replace the table, choose **yes**. The Preface and Appendix are now both included in the table of contents.
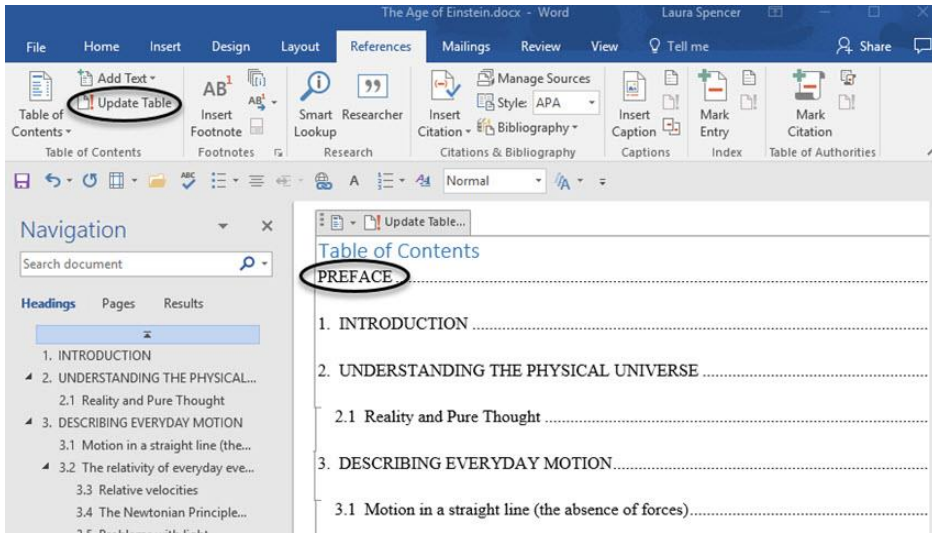
After adding custom styles to the TOC list, text formatted with those styles will appear in the table.

2.0.4 Manually Updating the Table of Contents in Word

There are other times when you will want to update the table manually. This is handy when you change the text of one of the headings and want the change reflected in the table of contents.

Scroll down to the page with the preface. At the top of the page replace PREFACE with FORWARD. Make sure it still uses the *Large heading* style.

Go back to the top of the table of contents and click in it. Note that it has a grey background; that means it is a field, and fields can usually be updated.

Click the **Update Table** button either on the TOC itself (that button does not always appear) or on the References tab, and the first entry changes to FORWARD. (On the Mac, right-click the table and choose **Update Field** from the pop-up menu. Choose the **Update entire table** option and click **OK**.)
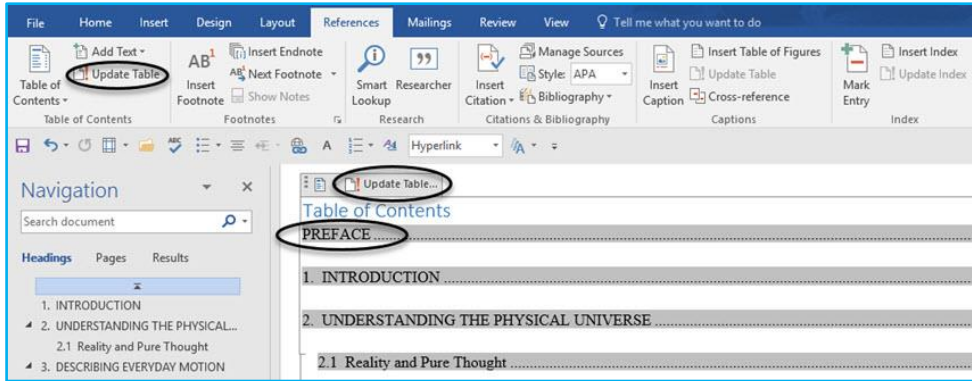
Figure 3.6 updating a table in mac

2.1 Controlling Text Wrap

When you insert a graphics object of any sort into a Word document—pictures, clip art, charts, SmartArt—it is inserted in line with the text on the text layer. Word treats it as just another character of text. When you drag it to a new location within your text it acts just like a character on that line, within that paragraph. But sometimes what you want is a graphic that the text flows around, book or magazine style, and often then has special needs to display the text in very specific patterns near or around the art work.

Word has both a text layer and a graphics layer. Text cannot wrap around the graphic until it is moved to the graphics layer. Your graphic is moved to the graphics layer when you choose a text wrap option other than inline. All of the other options make it a 'floating' graphic, rather than an inline graphic, which means it can be moved anywhere you wish.

To apply another text wrap option select the graphic, then on the Picture Tools tab select the option you wish from among six presets: Square, Tight, Through, Top and Bottom, Behind Text or In Front of Text.
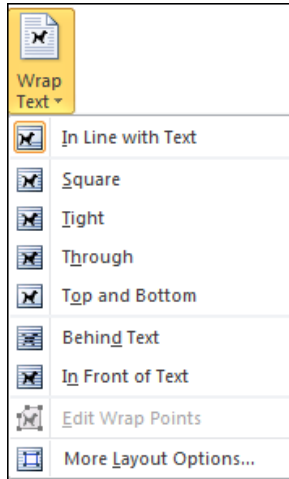
Figure 3.7 wrap text selection

Selecting behind Text will place your graphic on the layer behind the document text.

The other four vary a bit, and their names are descriptive of their function. Square and tight are the same, except that Square keeps text outside the actual rectangular borders of the graphic. Tight allows text into any transparent background areas within the graphic's borders. Through is another odd choice, and is little used, and in truth varies little from Tight. Top and Bottom is simply a variation on Square with one of the More Layout Options… chosen.

Selecting that menu choice brings up the following dialog:
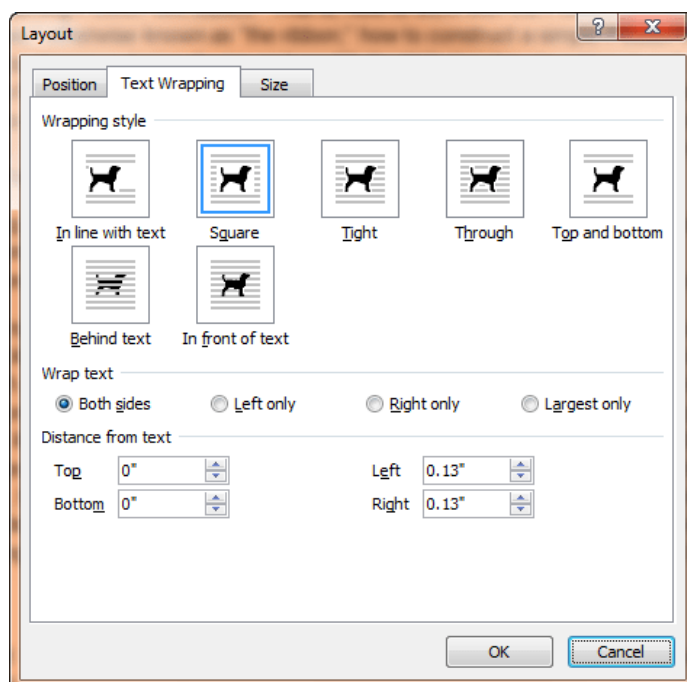
Figure 3.8 dialog after selecting the menu choice

The Wrap text and Distance from text options will only be available if you have already changed the Wrapping style from Inline to one of the other choices.

The Left only and Right are the only choices useful when inserting an Excel chart, positioning it slightly to one side of a document, but not all the way to the margin, and flowing text down a single side of it.

Edit Wrap Points gives ultimate control to text wrap around a graphic. Click it and a red border appears around your graphic.

Figure 3.9 red border selection

Place your cursor anywhere on the red border and drag to control text wrap with precision.

gn theme and modify its attributes; how to add text and
tion; how to print it; how to present it in the classroom; and
web and link to it from a
ter skills are

orkshop
s in
ome

ear and
with, yet
Much more
Point allows
dio and video
sites like YouTube,
multimedia elements. In Part 1 of this workshop we will be
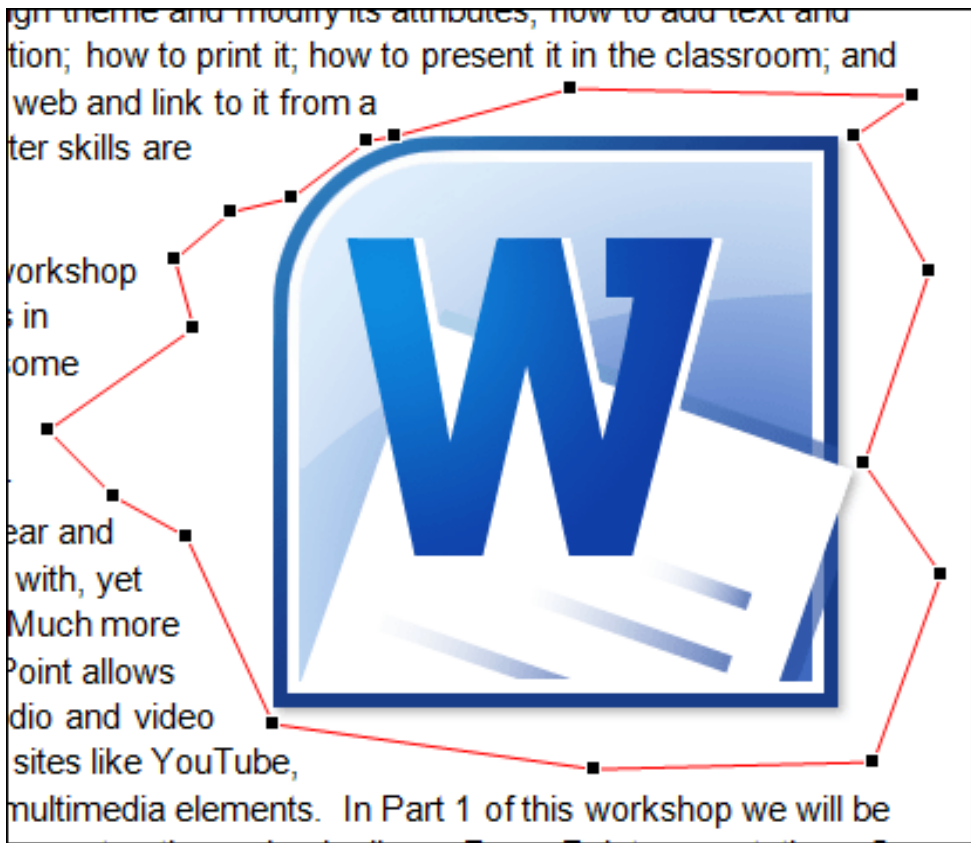
Figure 3.0 wrap points

If Wrap Points are dragged inside the field of the graphic, text flows there. When the wrap points are far outside, the text stays away. This is the ultimate in control. Remember, it is only available once you have chosen one of the non-Inline wrapping options.

These options are also available on the graphic's context menu too. Simply right-click the graphic, move your cursor down to Wrap text, and a sub-menu with the same choices will appear.
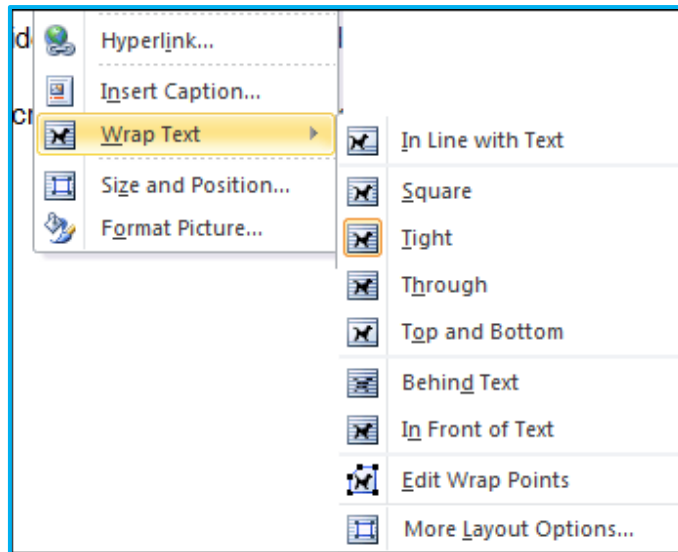
Figure 4.1 wrap text selection

To gain control over text wrap in your document, select your graphic and choose a non-Inline layout style to move it to the graphics layer where it can float; drag the graphic approximately where you want it; use the Layout Options to control major text flow control; if you need very fine tuning edit the Wrap Points.

Practical Example

As you work through the following section it would be useful to try out the processes described so that you become familiar with the formatting techniques.

2.1.1 Control text flow in Word with linked text boxes

1. Open a blank document in Print Layout view, right-click the Standard toolbar, click Drawing.
2. Click the Text Box tool in the Drawing toolbar and click and drag across the top of the page where you wish to insert the picture.
3. Underneath the picture text box, insert two vertical text boxes: one for the article text and a second for the events calendar.
4. Insert a hard page break. On page two of your document, insert two vertical text boxes — one on each side of the page.
5. Click the first vertical text box on page one. Right-click the Standard toolbar and click Text Box.
6. On the Text Box toolbar, click the Create Text Box Link tool.

7. Move the pointer (which is now shaped like a pitcher) to the second vertical text box on page two. When the pitcher turns into a pouring pitcher, click the second text box to link it with the first.

8. Click the second text box, which you linked to the text box on page one. Click the Create Text Box Link tool.

9. Move the pointer to the third vertical text box on page two. When the pitcher turns to become a pouring pitcher, click the third vertical text box.

Exercise

1. Create a **new** Word document.
2. Insert a **picture from a file** into the document.
3. Resize the picture.
4. Find a picture with **Bing Image Search** and insert it into your document. Or search for **computer** and insert.
5. Change the **text-wrapping setting** of one of the images. If you are using the change the text-wrapping setting of the computer to **through**.
6. Try **moving** an image to a new location.

2.1.2 Creating new styles

Example:

If you have already had some text formatted just the way you want it, you can use it to create a new Style. The easiest way is to select the text you want the Style to emulate, right-click and select Styles, then select Create a Style:

Proin·pharetra·nonummy·pede.·Mauris·et·orci.¶

I·want·this·text·to·be·in·block·qu...ed·and·indented·
half·an·inch·on·both·sides·and·have·12·points·of·space·beneath·
starts·again.·Unlike·the·text·above·and·below·it,·it·will·not·have·
want·to·be·able·to·use·this·Style·to·control·all·of·my·block·quote

Suspendisse·dui·purus,·scelerisque·at,·vulputate·vitae,·pretium·

at·sem·venenatis·eleifend.·Ut·nonummy.¶

¶

Proin·pharetra·nonummy·pede.·Mauris·et·orci.¶

I·want·this·text·to·be·in·block·qu...ed·and·indented·
half·an·inch·on·both·sides·and·have·12·points·of·space·beneath·
starts·again.·Unlike·the·text·above·and·below·it,·it·will·not·have·
want·to·be·able·to·use·this·Style·to·control·all·of·my·block·quote

Suspendisse·dui·purus,·scelerisque·at,·vulputate·vitae,·pretium·

at·sem·venenatis·eleifend.·Ut·nonummy.¶

¶

You will get this dialog box:

Create New Style from Formatting

Name:

Block Quote

Paragraph style preview:

Style1

OK   Modify...   Cancel
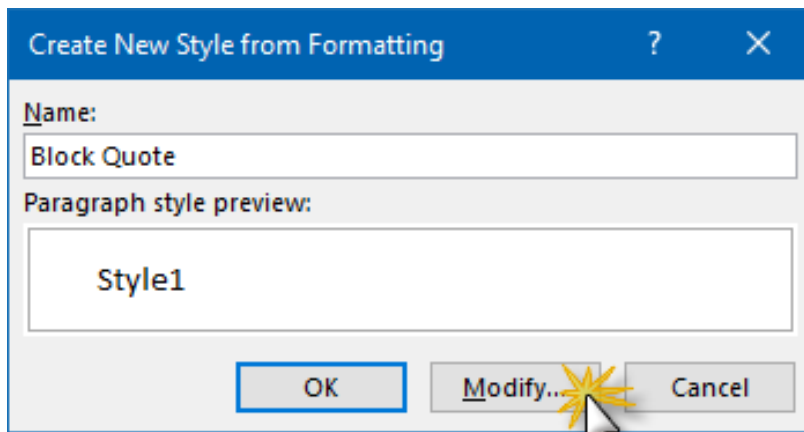
You could simply click OK here, but you could also see what your options are in case you want something other than the defaults Word will choose for you:

Create New Style from Formatting

Properties

Name: Block Quote

Style type: Linked (paragraph and character)

Style based on: ¶ Normal

Style for following paragraph: ¶ Block Quote

Formatting

Calibri (Body) 11 **B** *I* U Automatic

Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph Previous Paragraph

I want this text to be in block quote format. It needs to be single-spaced and indented half an inch on both sides and have 12 points of space beneath it before regular text starts again. Unlike the text above and below it, it will not have the first line

Following Paragraph Following Paragraph

Do not check spelling or grammar, Indent:
   Left: 0.5"
   Right: 0.5"
   Line spacing: single, Space

☑ Add to the Styles gallery ☐ Automatically update
◉ Only in this document ○ New documents based on this template

Format ▾   OK   Cancel

1. Word will automatically name this Style1; you will want to rename it here if you did not already do it in the previous dialog box.
2. Word has several Style types: Paragraph, Character, Linked (which combines Paragraph and Character), Table and List. Since this is really intended to be a collection of paragraph settings, Linked isn't really the best choice, because if I change the font style or size elsewhere in the document and apply Block Quote as a Linked Style, it is going to change the text back to Calibri 11. The Style type Paragraph is a better choice in this instance.
3. If I'm typing a Block Quote paragraph and I press the Enter key, what Style do I want the following paragraph to default to? It is a matter of personal

convenience and obviously depends on what sort of document you are working on.

4. And you can review the settings themselves in this window.

5. These settings control three things:

   a) Whether you can access this Style in the Styles Gallery on the Home tab (if you want to keep this one handy, leave that box checked);

   b) Whether you want any Styles to automatically update themselves based on manual formatting you do in your document (for example, if you altered the indentation on one paragraph that had the Block Quote Style applied to it, checking this box means that the Style itself reflects those changes, and all the paragraphs with Block Quote applied will change, not just the one you edited). I recommend leaving this one unchecked—it tends to wreak havoc in documents;

   c) Whether you want this Style to be available only within this document or any documents you create in the future in this template.

6. You can make further format changes to your Style settings in both these places. The area at the top will let you make some font and spacing changes, but Format button will take you to various dialog boxes (Paragraph, Numbering, etc.) for more advanced formatting.

Once you have configured everything to your liking, click OK.

2.1.3 Creating a new Style from scratch

If you have got a specific set of requirements and are fairly skilled with character and paragraph formatting, though, you can simply create a new Style from scratch.

To start, click the drop-down arrow at the bottom right-hand corner of the Quick Styles area to open the Styles pane:
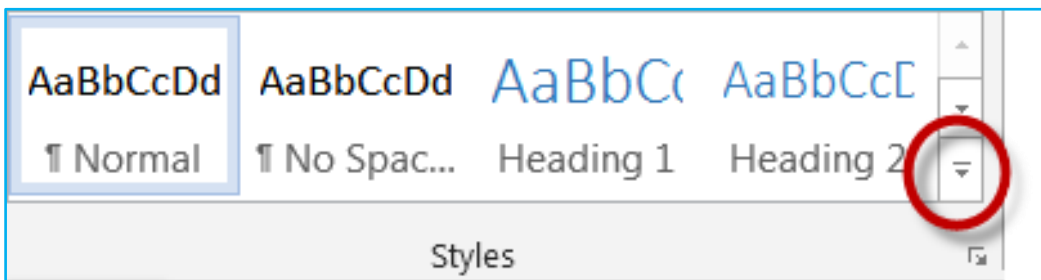
Figure 4.2 style selection

Then click Create a Style:
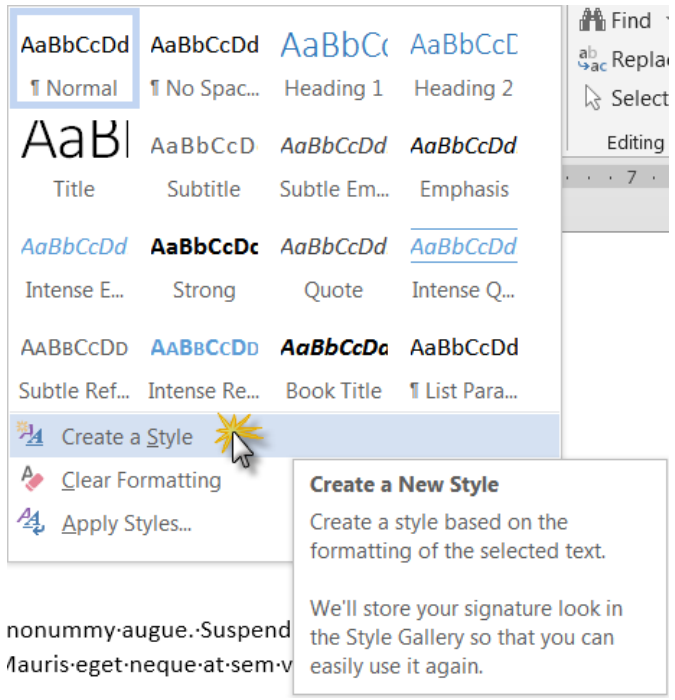
Figure 4.3 creating a new style

You will get the now-familiar dialog box:
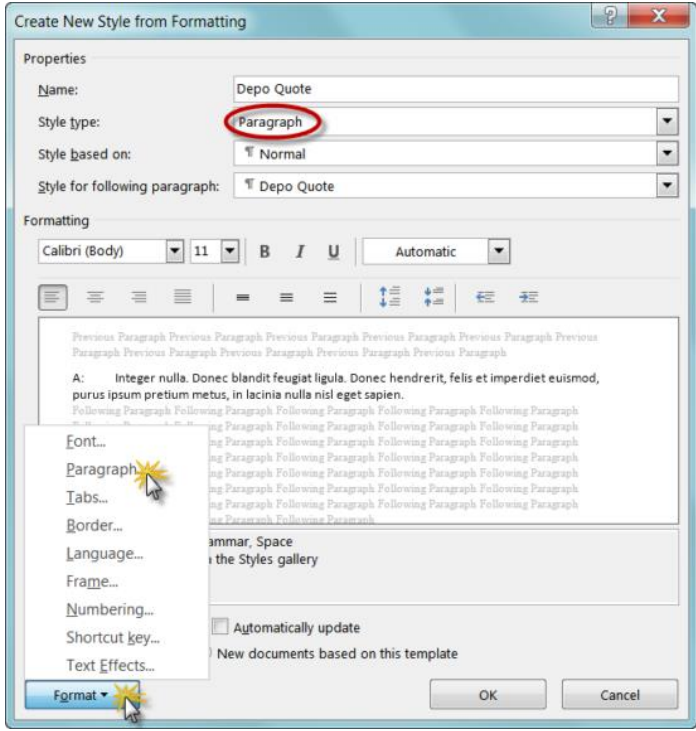
Figure 4.4 creating a new style from formatting

You will notice that it is designated to be a Paragraph Style. Since this Style is intended to control how the text indents and spaces, you want it to be independent of font settings, etc., so you can use it with any font settings in any document.

To get those indents and spacing, click on the Format button at the bottom and choose Paragraph to go to the Paragraph dialog box:
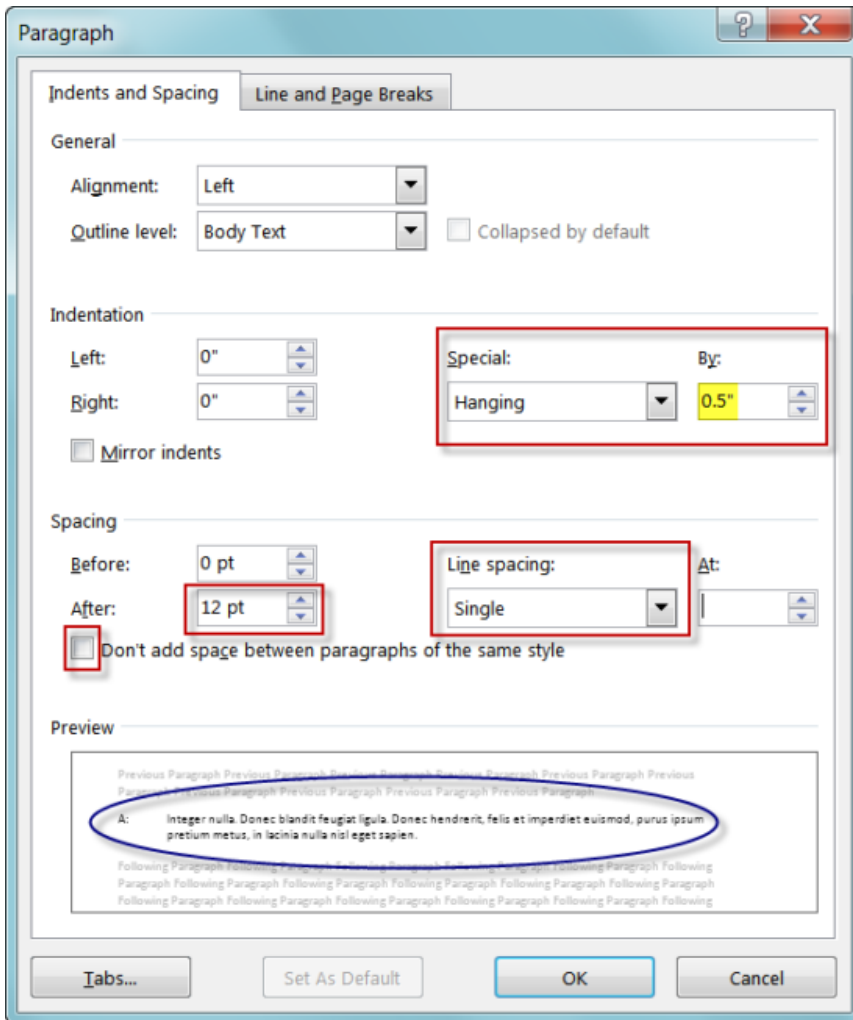
Figure 4.5 preview pane

You can preview the results in the Preview pane.

2.2 Tracking changes

When you want to see who's been making changes to your document, turn on the Track Changes feature.

Practical Example

As you work through the following section it would be useful to practise tracking changes so that you become familiar with this valuable option.

2.2.1 Turn Track Changes on or off

On the **Review** tab, in the **Tracking** group, choose **Track Changes**.

When you turn on Track Changes, Word marks up new changes made to the document. This is particularly useful when more than one person is working on a document. Track Changes allows each person to easily see the changes that have been made to the document.

When you turn off Track Changes, Word stops marking up new changes. Any changes that were already tracked remain marked up in the document until you remove them.
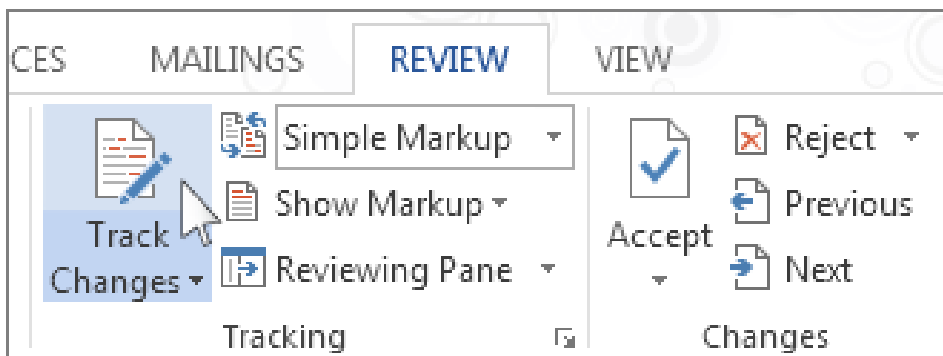
Figure 4.6 track changes selection

2.2.2 Show changes (revisions) in document

When you turn on Track Changes, Word marks up and shows any changes that anyone makes to the document.
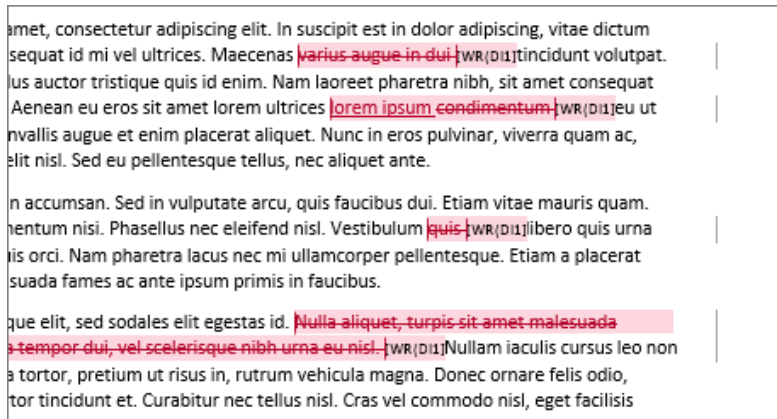
Figure 4.7 changes made on a document

1. On the **Review** tab, in the **Tracking** group, in the **Simple Markup** list, choose a view option.

   Simple Markup is the default option, and indicates where changes are with a red line in the margin.
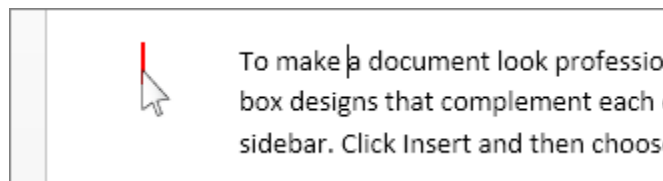
- **No Mark-up** hides mark-up to show what the incorporated changes will look like.

You can see the markup again by choosing **Simple Markup** or **All Markup**.

- **All Markup** shows all edits with different colors of text and lines.
- **Original** shows the document in its original form.

2. In the **Show Markup** list, choose the revisions you'd like to see—Comments, Ink, Insertions and Deletions, Formatting, Balloons, Specific people.

2.2.3 Keep Track Changes turned on

You can prevent someone else from turning off Track Changes by turning on Lock Tracking and adding a password. When Tracked Changes is locked, you cannot turn off the feature, and you cannot accept or reject the changes.

1. On the **Review** tab, in the **Track Changes** list, choose **Lock Tracking**.
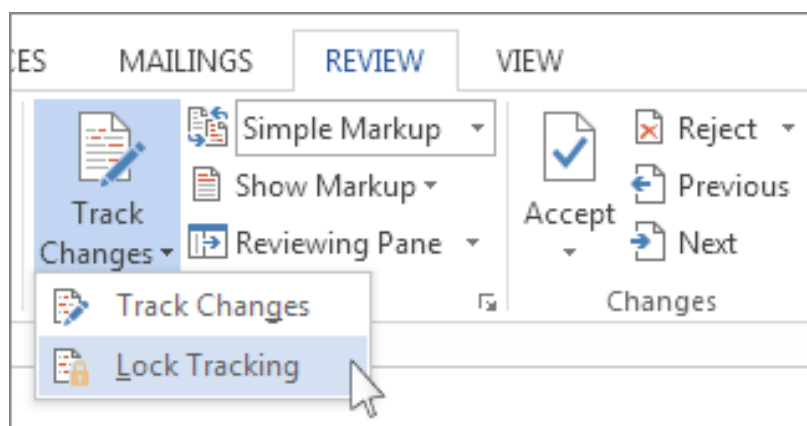
Figure 4.8 lock tracking selection

Do one of the following:

- In the **Lock Tracking** dialog box, enter a password, type it again in the **Re-enter to confirm** box, and then choose **OK**.

Adding a password is optional. It is not a security feature. It is intended, however, to discourage others from turning off Track Changes.

- In the **Lock Tracking** dialog box, choose **Cancel**.

Turn off Lock Tracking

1. In the Track Changes list, choose Lock Tracking.
2. If you added a password, enter it when prompted, and then choose OK.
3. Track Changes is still on, but you can accept and reject changes.

2.2.4 Remove tracked changes

The only way to remove tracked changes in a document is to accept or reject them. Choosing **No Markup** in the **Display for Review** box helps you see what the final document will look like—but it only hides tracked changes temporarily. The changes are not deleted, and they will show up again the next time anyone opens the document. To delete the tracked changes permanently, accept or reject them.

Accept or delete a single tracked change

1) Open your document.
2) On the **Review** tab, in the **Changes** group, choose **Next** or **Previous**.
3) Choose **Accept** or **Reject**.
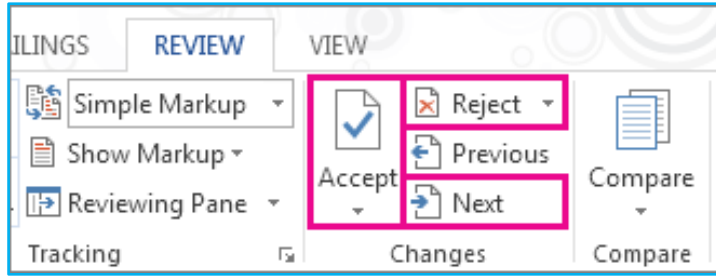
Figure 4.4 review tab selection

Accept or delete all tracked changes

1. Open your document.
2. On the **Review** tab, in the **Changes** group, do one of the following:
    ☐ In the Accept list, choose Accept All Changes.
    Or
    ☐ In the Reject list, choose Reject All Changes.

2.3   Creating templates

If you frequently create a certain type of document, such as a monthly report, a sales forecast, or a presentation with a company logo, save it as a template so you can use that as your starting point instead of recreating the file from scratch each time you need it. Start with a document that you already created a document you downloaded, or a new template you customized.

Practical Example

As you work through the following section it would be useful to follow the steps on the computer so that you become familiar with the use of templates.

2.3.1 Save a template

1. To save a file as a template, click **File** > **Save As**.
2. Double-click **Computer** or, in Office 2016 programs, double-click **This PC**.
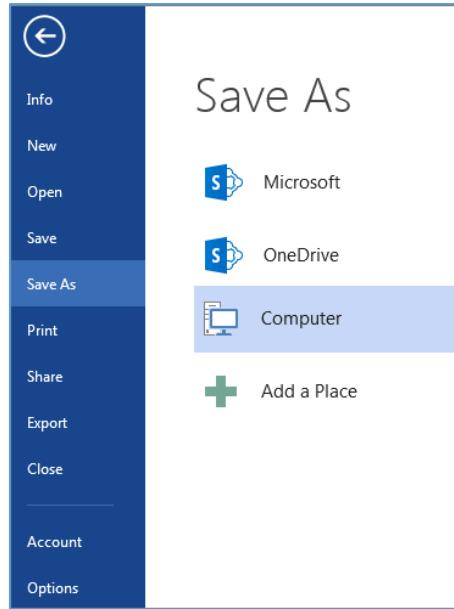
3. Type a name for your template in the **File name** box.
4. For a basic template, click the template item in the **Save as type** list. In Word for example, click **Word Template**.
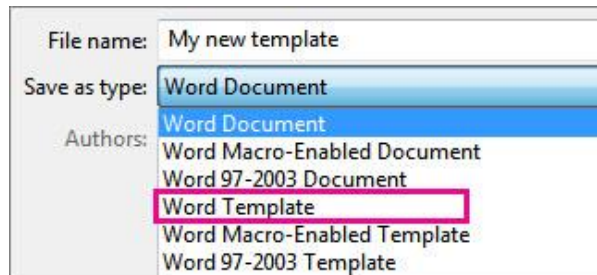
If your document contains macros, click **Word Macro-Enabled Template**.

Office automatically goes to the Custom Office Templates folder.

5. Click **Save**.

To change where your application automatically saves your templates, click **File** > **Options** > **Save** and type the folder and path you want to use in the **Default personal templates location** box. Any new templates you save will be stored in that folder, and when you click **File** > **New** > **Personal**, you will see the templates in that folder.

2.3.2 Edit your template

To update your template, open the file, make the changes you want, and then save the template.

1. Click **File** > **Open**.
2. Double-click **Computer** or **This PC**.
3. Browse to the **Custom Office Templates** folder that's not under **My Documents**.
4. Click your template, and click **Open**.
5. Make the changes you want, then save and close the template.

2.3.3 Use your template to make a new document

To start a new file based on your template, click **File** > **New** > **Personal**, and click your template.
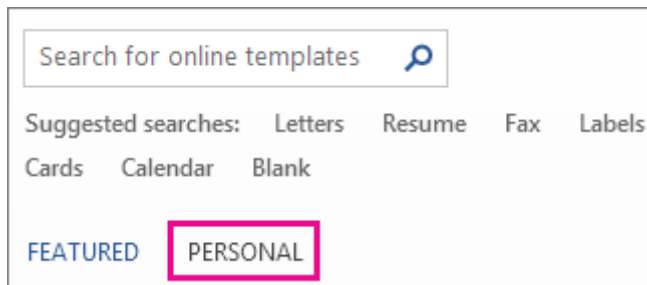
Figure 5.0 personal selection

Activity 2.3: create a resume template

In pairs

Create a job resume with all the features included.

Presentation

Present the resume to the class. Which pair has the best resume?

2.4 Password and Editing Restrictions

In Office, you can use a password to help prevent other people from opening or modifying your documents, workbooks, and presentations. Then you can easily remove passwords to unprotect a document or workbook if read only is no longer required. Also, you can use document protection to restrict the types of changes that reviewers can make.

Practical Example

As you work through the following section it would be useful to practise protecting your word documents.

Add protection in your Word document

- In an open document, click **File** > **Info** > **Protect Document**.
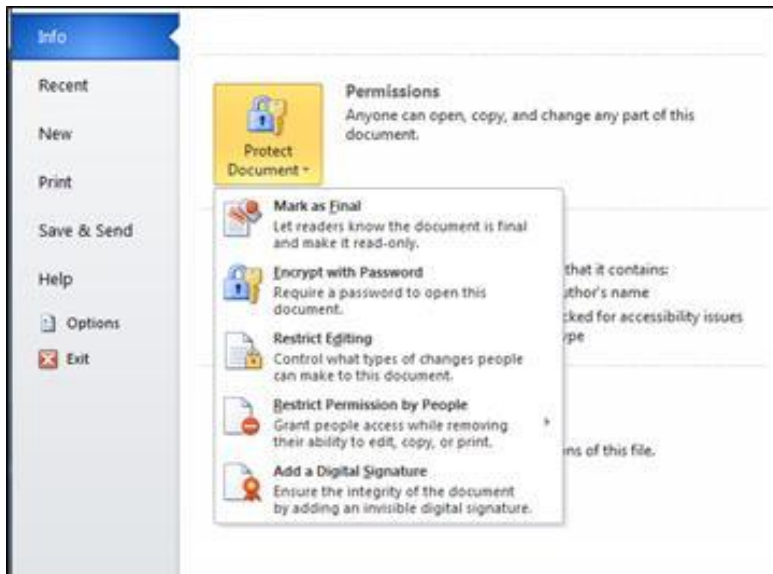
Figure 5.1 document protection

Mark as Final: Make the document read-only.

When a document is marked as final, typing, editing, commands, and proofing marks are disabled or turned off and the document becomes read-only. The **Mark as Final** command helps you communicate that you are sharing a completed version of a document. It also helps prevent reviewers or readers from making inadvertent changes to the document.

When you mark a document as final, Word asks you to save the file. The next time you open it, you will see a yellow **MARKED AS FINAL** message at the top of the document. If you click **Edit Anyway**, the document will no longer be marked as final.

Encrypt with Password: Set a password for the document.

Important: Keep your password in a safe place. If you lose or forget the password, it cannot be recovered.

When you select **Encrypt with Password**, the **Encrypt Document** dialog box appears. In the **Password** box, type a password, and then type it again when prompted. **Important:** Microsoft cannot retrieve lost or forgotten passwords, so keep a list of your passwords and corresponding file names in a safe place.

1. **Restrict Editing:**   Control what types of changes can be made to the document.

When you select **Restrict Editing**, you see these options:

- **Formatting restrictions** reduces formatting options, preserving a look and feel. Click **Settings** to select which styles are allowed.
- **Editing restrictions** you control how the file can be edited or you can disable editing. Click **Exceptions** or **More users** to control those who can edit.
- **Start enforcement**   Click **Yes, Start Enforcing Protection** to select password protection or user authentication. You can also click **Restrict permission** to add or remove editors who'll have restricted permissions.
- **Restrict Permission by People:**   Use Windows Live ID to restrict permissions.
- Use a Windows Live ID or a Microsoft Windows account to restrict permissions. You can apply permissions via a template that is used by your organization, or you can add permissions by clicking **Restrict Access**.

2. **Add a Digital Signature**: Add a visible or invisible digital signature. Digital signatures authenticate digital information such as documents, email messages, and macros by using computer cryptology. Digital signatures are created by typing a signature or by using an image of a signature to establish authenticity, integrity, and non-repudiation.

2.5 Mail merging

As you work through the following section it would be useful to try out the mail merging processes described.

Mail Merge is most often used to print or email form letters to multiple recipients. Using Mail Merge, you can easily customize form letters for individual recipients. Mail merge is also used to create envelopes or labels in bulk.

1. In a blank Microsoft Word document, click on the Mailings tab, and in the Start Mail Merge group, click Start Mail Merge
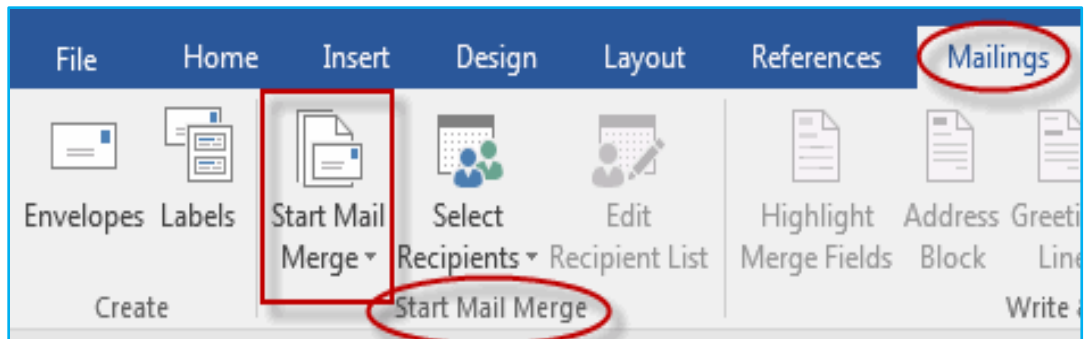
Figure 5.2 starting mail merge

2. Click Step-by-Step Mail Merge Wizard.
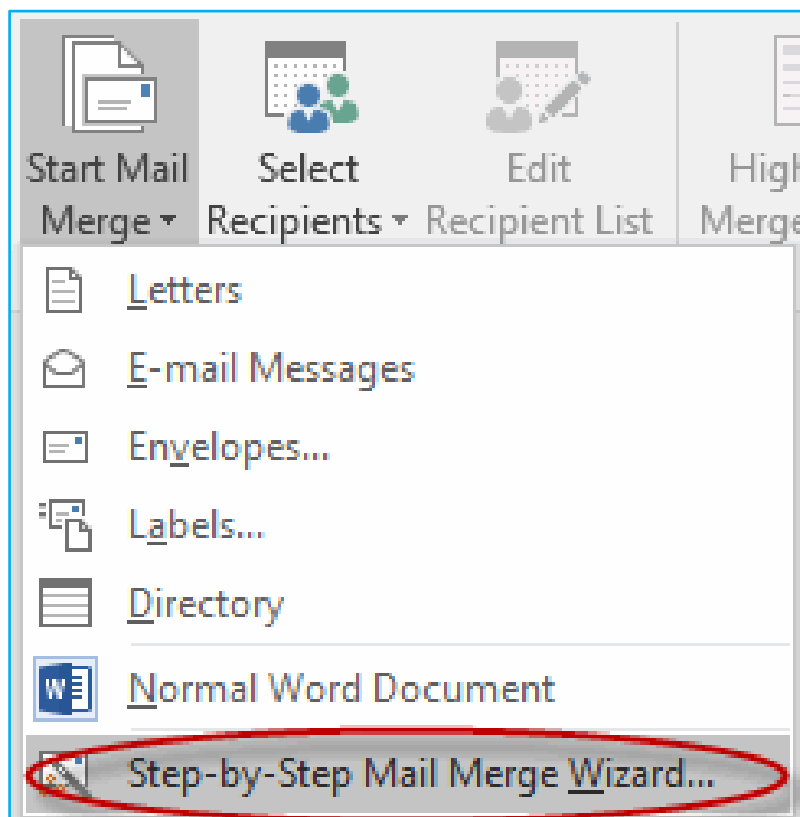
Figure 5.3 Step-by-Step Mail Merge Wizard

3. Select your document type. In this demo we will select Letters. Click Next: Starting document.
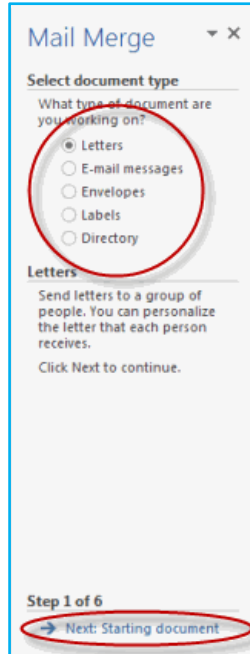
4. Select the starting document. In this demo we will use the current (blank) document. Select Use the current document and then click `Next:`
`Select recipients.`
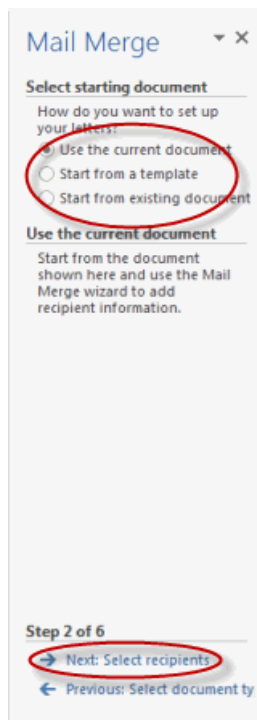
☐ Note that selecting **Start from existing document** (which we are not doing in this demo) changes the view and gives you the option to choose your document. After you choose it, the Mail Merge Wizard reverts to **Use the current document**.

5. Select recipients. In this demo we will create a new list, so select Type a new list and then click Create.
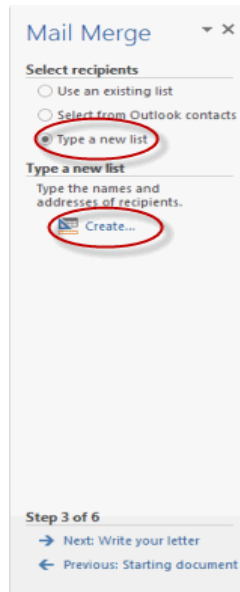
☐ Create a list by adding data in the New Address List dialog box and clicking OK.
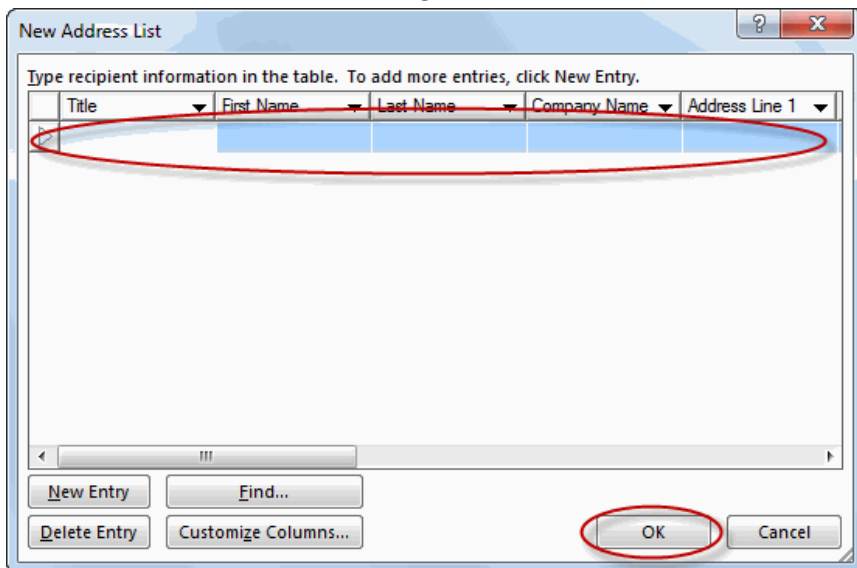
Figure 5.4 creating a list by adding data in the New Address.

- Save the list.
- Note that now that a list has been created, the Mail Merge Wizard reverts to Use an existing list and you have the option to edit the recipient list.
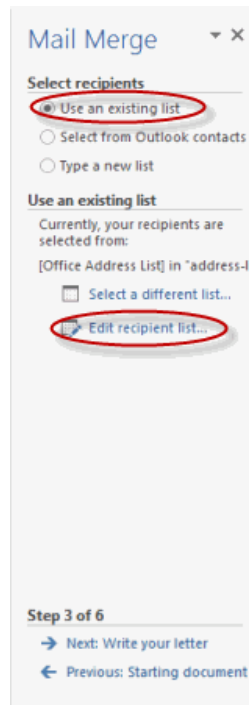
- Selecting Edit recipient list opens up the Mail Merge Recipients dialog box, where you can edit the list and select or unselect records. Click OK to accept the list as is.
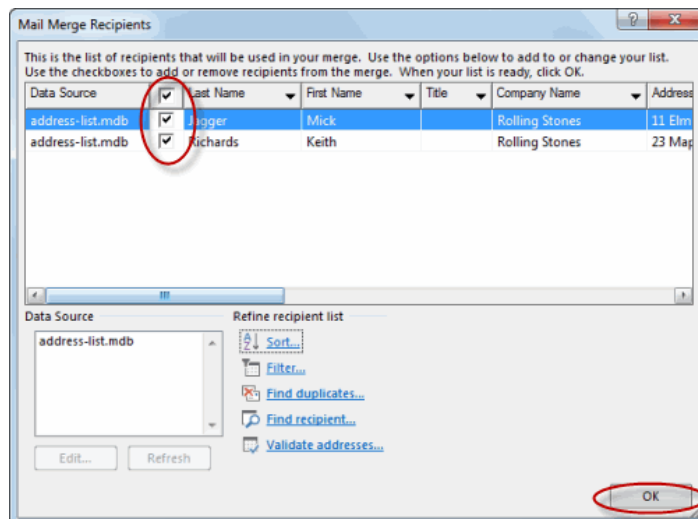
Figure 5.5 Selecting Edit recipients

□ Click Next: Write your letter.
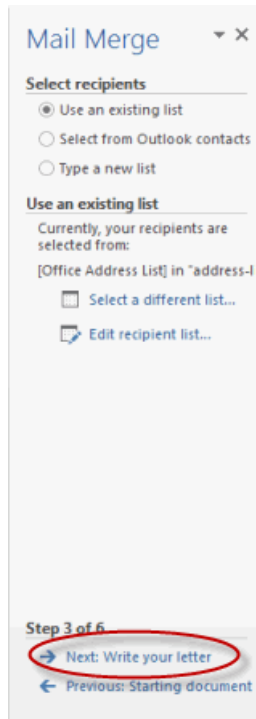
6. Write the letter and add custom fields.

□ Click Address block to add the recipients' addresses at the top of the document.
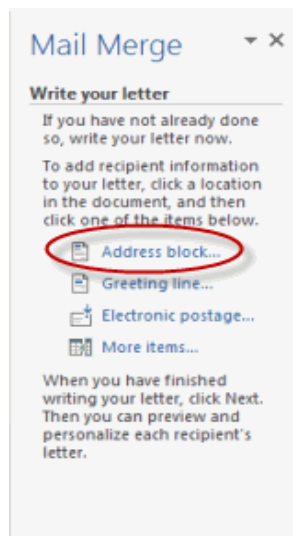
□ In the Insert Address Block dialog box, check or uncheck boxes and select options on the left until the address appears the way you want it to.
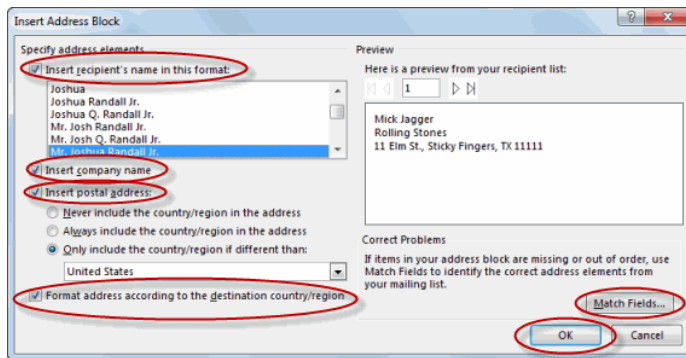
Figure 5.6 Inserting Address Block dialog box

☐ Note that you can use Match Fields to correct any problems. Clicking Match Fields opens up the Match Fields dialog box, in which you can associate the fields from your list with the fields required by the wizard.
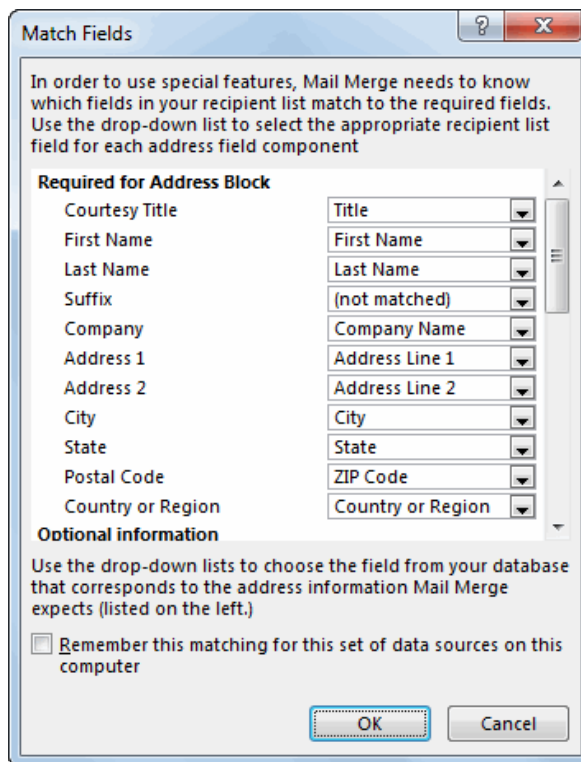
Figure 5.7 match field selection

7. Press Enter on your keyboard and click Greeting line... to enter a greeting.
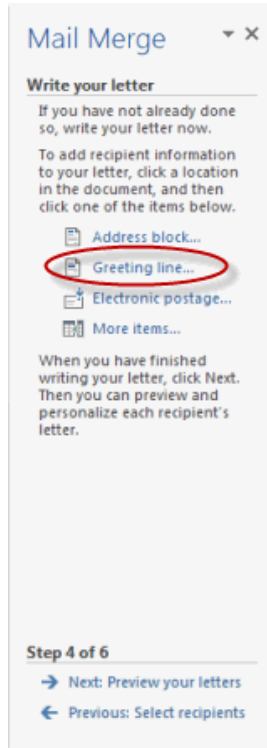
8. In the Insert Greeting Line dialog box, choose the greeting line format by clicking the drop-down arrows and selecting the options of your choice, and then click OK.
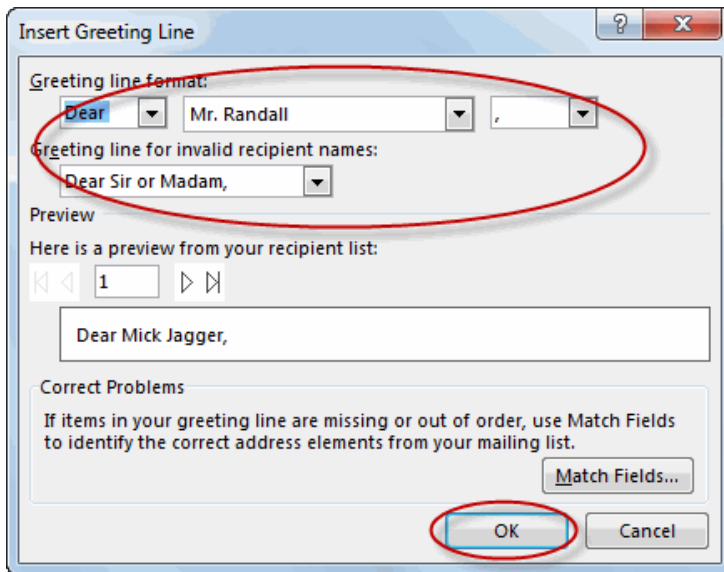
Figure 5.8 greeting line format selection

9. Note that the address block and greeting line are surrounded by chevrons
(« »). Write a short letter and click next: Preview your letters.
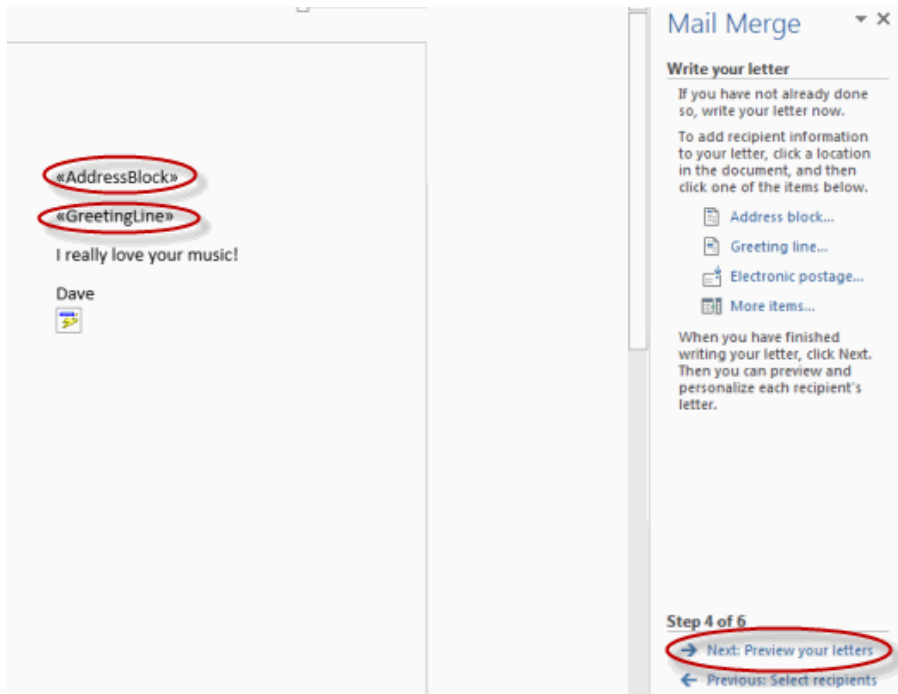
Figure 5.9 preview your letter selection

❑ Preview your letter and click next: Complete the merge.
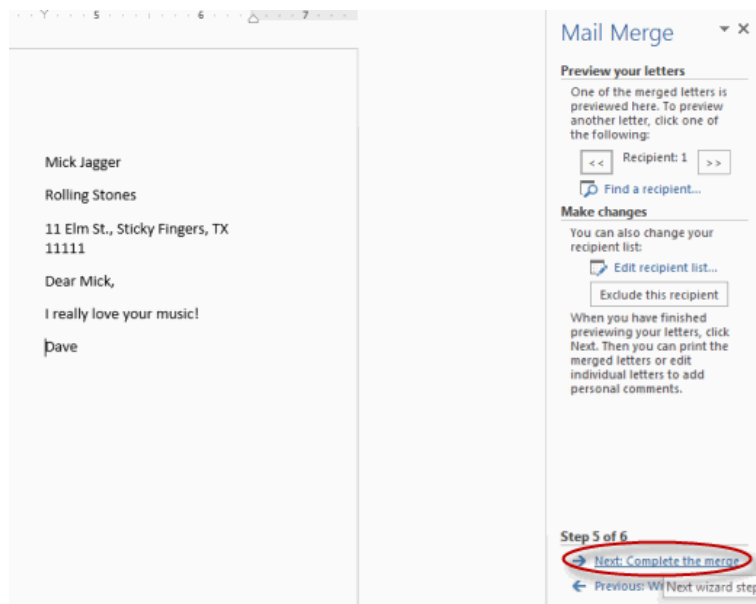
Figure 6.0 complete the merge selection

- Click Print to print your letters or Edit individual letters to further personalize some or all of the letters.
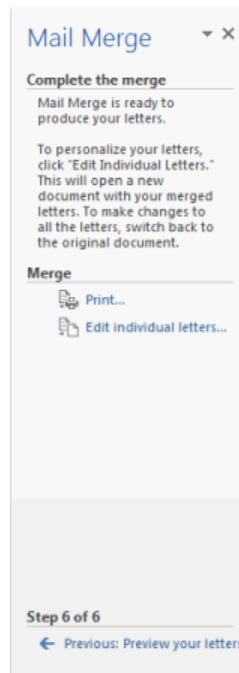
2.5.1 Create or edit a hyperlink

Applies To: Excel 2016 Word 2016 Outlook 2016 PowerPoint 2016 Office 2016

The fastest way to create a basic hyperlink in an Office document is to press ENTER or the SPACEBAR after you type the address of an existing webpage, such as http://www.mountainpublishers.com. Office automatically converts the address into a link.

In addition to webpages, you can create links to existing or new files on your computer, to email addresses, and to specific locations in a document. You can also edit the address, display text, and font style or color of a hyperlink.

2.5.2 Turn off automatic hyperlinks

When it is not convenient to have Office automatically create hyperlinks in your document as you type, you can turn them off.

1. In Office 2010 and later:
Click File > Options > Proofing.
(In Outlook, click File > Options > Mail > Editor Options > Proofing.)
In Office 2007:
Click the Microsoft Office button, and then click Options > Proofing.

(In Outlook, open a new message, click the Microsoft Office button, and then click Editor Options > Proofing.)

      2.   Click AutoCorrect Options, and then click the AutoFormat as You Type tab.

      3.   Clear the Internet and network paths with hyperlinks check box.

Activity 2.3: Uses of Microsoft Word

In groups

      1.   What are the uses of Microsoft Word in Business and workplace?

      2.   What are uses of MS word in Education?

      3.   What are Home based uses of Microsoft Word?

Discuss

Write your answers and be ready to explain your answers, discuss with your group to find the similarities of your answers. As a group write answers in form of a presentation. Make the presentation to the class.

2.5.3 Advanced formatting in MS PowerPoint

Advanced formatting in PowerPoint

Learning objectives:

The learners should be able to:

- Identify the names and functions of the PowerPoint interface.
- Create, edit, save, and print presentations.
- Format presentations.
- Add a graphic to a presentation.
- Create and manipulate simple slide shows with outlines and notes.
- Create slide presentations that include text, graphics, animation, and transitions.
- Use design layouts and templates for presentations.
- Create a PowerPoint presentation.

Slides need to be consistent by enhancing creativity by reducing the unnecessary attention in PowerPoint slides. The inconsistency that should be eliminated from

e.g. business presentations is the unintentional oversights in PowerPoint design, not deliberate ones that are designed to emphasize a key point or concept.

There are **five areas** of presentation design that can benefit from greater consistency.

1. **Colours:** You do not want to use every colour in the rainbow in your slides. Your presentation will look more professional if you limit yourself to only using a subset of colours consistently throughout your slides. If your PowerPoint template is well-designed, you can leverage its built-in theme colours.

2. **Fonts:** There are many fonts in Microsoft Office, but your presentation slides should not include more than three of them in one slide deck. If too many fonts are used in one PowerPoint presentation, they can become a distraction and dilute the effectiveness of your message. If you are using multiple fonts, try to use them the same way throughout your slides (e.g., body text, text boxes, slide titles, etc.).

3. **Images:** Some presentations can end up looking like misguided elementary school collages. When you are looking to use several images throughout your presentation, you can improve its professional look and feel by choosing pictures and clip art that are similar in style. You may also want to consider repeating a particular graphic throughout a presentation rather than using multiple images to represent the same point or concept.

4. **Formatting:** Consistent formatting can be a real problem when you are incorporating slides from someone else. A business or academic presentation can look disjointed and less professional when a presenter does not take the necessary time to clean up the formatting. In order to improve the professional polish of your presentation design, you need to invest some time in making sure that the formatting of fonts, images, bullet points, animations, backgrounds, etc. is consistent.

5. **Content:** As you build out your content, you may want to consider using a consistent approach or structure. For example, if you are examining several problems in your research, you may want to follow a uniform approach as you present your findings (e.g., problem description, analysis, recommendations). In terms of content consistency as an example using bullet points in a consistent manner on the slides where that approach is used.

2.5.4 Applying presentation styles

Some presentations, like keynote presentations, are meant to be more flashy. They are usually short on details and long on big concepts. They incorporate an entertainment value. These are sometimes called ballroom presentations. The audience might be fairly large.

Other presentations, like internal or sales presentations are very different. They require more details, including graphs and statistics, and they are not meant to entertain. The audience is usually smaller, so there's more opportunity for interaction. The purpose is usually to persuade or train.

The style that you would use for a keynote presentation is different from the style that you would use for a sales, training, or in-house presentation. But more than that, you must have noticed as an audience member that presenters have different styles.

Some presenters put a big idea on a slide and then spend quite a bit of time discussing that slide. Each slide is a springboard for a lot of content. Other presenters go through their slides very quickly. Each slide contains just a sliver of content and they build up their content with many slides.

2.5.5 Using multimedia in MS PowerPoint

Multimedia means combining multiple types of media in your presentation. You can use combinations of images, audio, and video to make your point.

Every PowerPoint slide is a blank canvas, waiting content to reinforce key speaking points or guide the presentation. Multimedia brings variety to your slides and helps visual learners understand your content better.

Why Use Multimedia in Your Presentation?

If we were bound to using only text and shapes, it would be much harder to hold an audience's attention during a presentation.

Multimedia exists to help reinforce our key speaking points. Here are a few ideas for working with images, audio, and video to make your presentation more interesting:

- **Images** - These could be used for everything from simple stock photos that add slide variety, to logos and icons that showcase your brand.
- **Audio** - is a great way to add narrations to your slides if you cannot present directly to your audience or to add music and sound effects.

Video - You can add video clips from your computer or sites like YouTube. Videos could be used for showing instructional walkthroughs from YouTube, TED talks, or a recorded screencast of your own.

2.6 Images in PowerPoint: Stills & Animated

As you work through this section it would be useful to follow the steps on the computer so that you develop your Powerpoint skills.

2.6.1 How to Insert Images into PowerPoint

The simplest way to add an image to PowerPoint is to simply **copy and paste.** You can copy an image to your clipboard in practically any app like a web browser or image editor, and then right click to paste it into PowerPoint.

A better way to insert images is to save them to your computer, then insert them using the **Insert** menu. Go to the **Insert > Pictures** menu to browse to an image to insert.
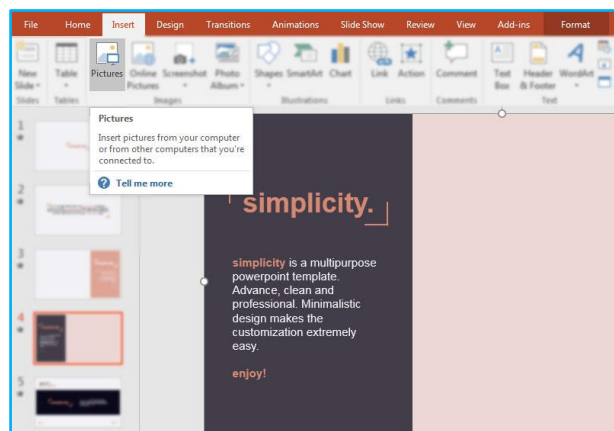
Figure 6.1 insert menu selection

Insert an image from the **Insert > Pictures** menu on the PowerPoint ribbon.

On the pop-up menu, browse to where your images are stored and click on them to add them to the presentation.

The best thing about using the **Insert** menu is that you can add multiple images at the same time. Hold the **Control** button on your keyboard and click on multiple images before you press **Insert** to add them all to a slide.
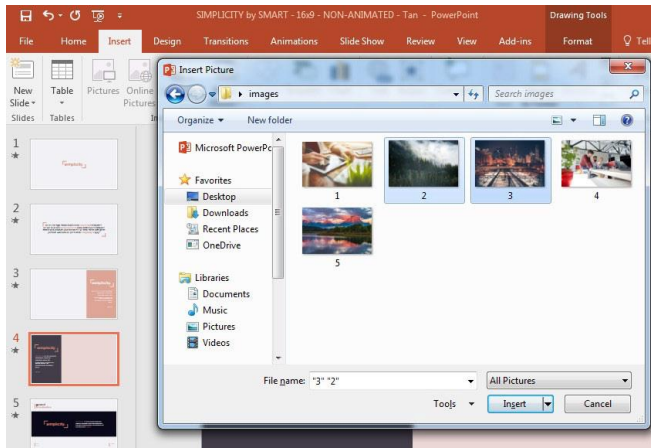
Figure 6.2 inserting an image

Select multiple images by holding **Control** on your keyboard and clicking on them before pressing **Insert** to add them all to a slide.

2.6.2 Resize and Reposition Images

Once an image is on the slide, you can click and drag it to move it around on the slide. If the image is larger or smaller than you want, you can click and drag on the corner to resize it.

Figure 6.3 resizing an image

Click and drag the white circle on the corner of an image to resize it on your PowerPoint slide.

2.6.3 PowerPoint Picture Tools

PowerPoint also includes a set of tools to edit images from within the app. You do not always have to open up Photoshop or another editor to make basic changes to your images.

When you select an image, you will see a new option on the PowerPoint ribbon. Click on "**Picture Tools > Format"** to open up image editing tools.

Figure 6.4 picture format selections

Here are the key Picture Tools to try out:

- **Cropping** - Select a portion of the image that you want to keep (and remove) to trim an image inside PowerPoint.
- **Remove background** - If you have a logo with a white or black background, use this wizard to isolate the logo.

2.7 Audio in PowerPoint

2.7.1 Add an Audio File to PowerPoint

Audio is another multimedia type you can work with in PowerPoint.

If you have an audio track on your computer like an **MP3** or **WAV** file, you can easily add them to your presentation. Choose the **Insert > Audio > Audio on My PC** option to browse for and choose an audio file.
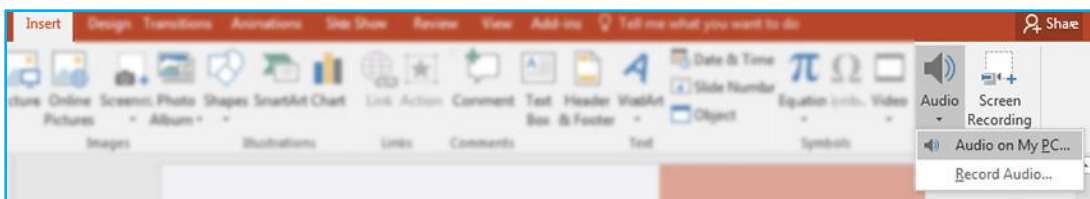
Figure 6.5 adding an audio file to PowerPoint

Go to **Insert > Audio > Audio on my PC** option to browse for and choose an audio file to add.

After you choose the audio file, you will see a small speaker icon on your PowerPoint slide. You can hover over it and press the play button to play it while presenting.

2.7.2 Record Audio inside PowerPoint

If you do not already have your audio recorded in a file, you can actually capture it right inside of PowerPoint.

To record audio for the presentation, go to the **Insert > Audio > Record Audio** option.
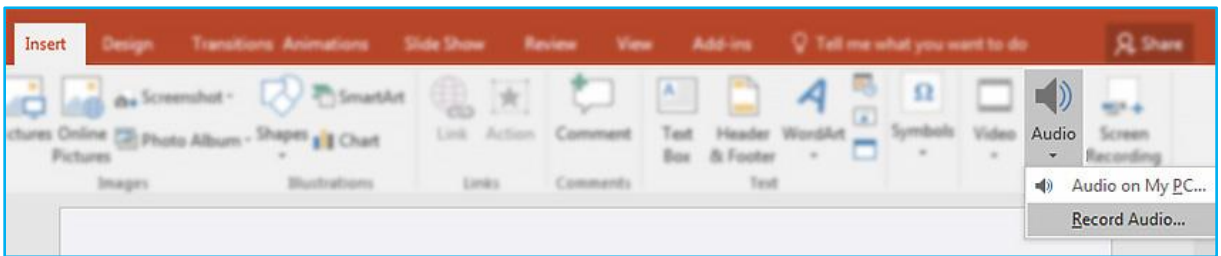
Figure 6.6 record audio selection

Go to the Insert > Audio > Record Audio option to record audio using a microphone.

Now, you will see the **Record Sound** option pop up. Press the red **Record** button, and PowerPoint will start grabbing audio. When you are finished, press the **Stop** button (Black Square) to add your audio to PowerPoint.

Figure 6.7 record button

Press the record button to record audio inside your presentation and add it to the PowerPoint file.

2.7.3 Working With PowerPoint's Audio Tools

PowerPoint lets you make minor edits and adjustments to audio files without having to open another app. With the audio file selected, the most useful options are found on the **Audio Tools > Playback menu.**

Here are some of the most useful options:

- **Trim Audio** - Open this option to reduce your audio file to play only a selection of the original file.
- **Start** - Change from **On Click** to **automatically** to play the audio without clicking the speaker icon.
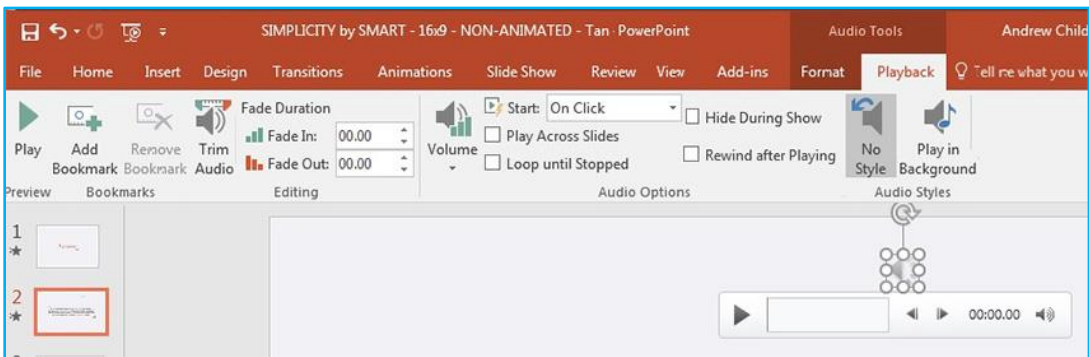
Figure 6.8 playback selection

Using PowerPoint Audio Tools, Playback options.

2.8 Video in PowerPoint

Video is a powerful multimedia type you can use. PowerPoint supports adding video from your computer or online. Let us look at how to insert and modify them:

2.8.1 Add a Clip from Your Computer

If you have a video clip on your computer, you can quickly drop it into your presentation by using the **Insert** menu. Go to **Insert > Video > Video on My PC** to browse to your video file.
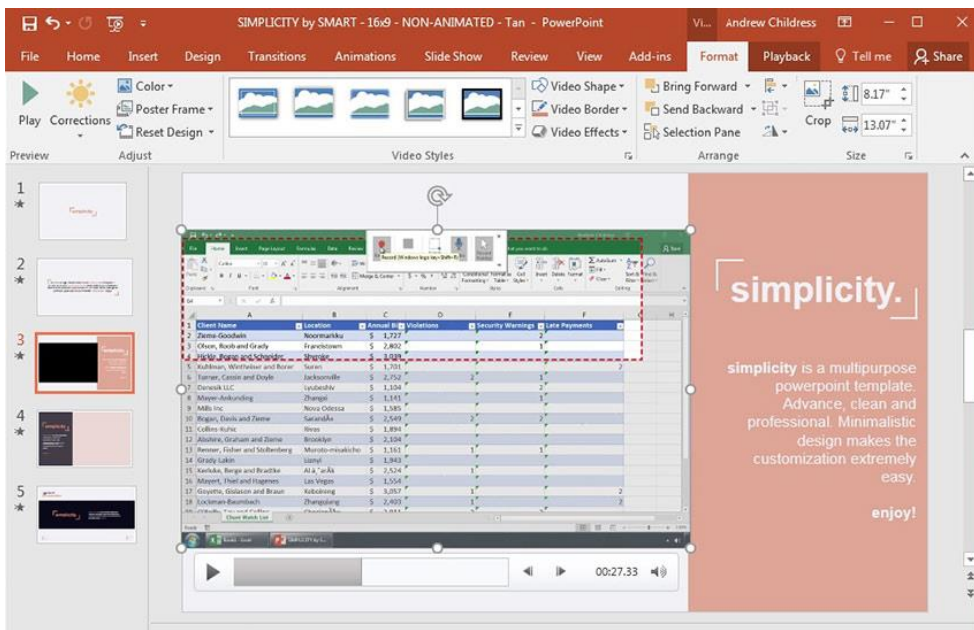
Figure 6.9 adding a clip on PowerPoint

After browsing to the video and inserting it, you will see it placed on your slide with the playback controls.

Once the video is on your slide, you can drag the corners to resize it and control how much of the slide it covers.

PowerPoint has good support for most of the major video file types, like MP4, QuickTime, and Windows Media files.

2.8.2 Add a Video Clip from Online

Finding an inspiring or insightful YouTube video can help make drive your point to reach an audience. Instead of finding a workaround to download and convert a YouTube video, PowerPoint can link to and insert them directly.

To add a YouTube (or other online) video, go to **Insert > Video > Online Video** to launch the menu.
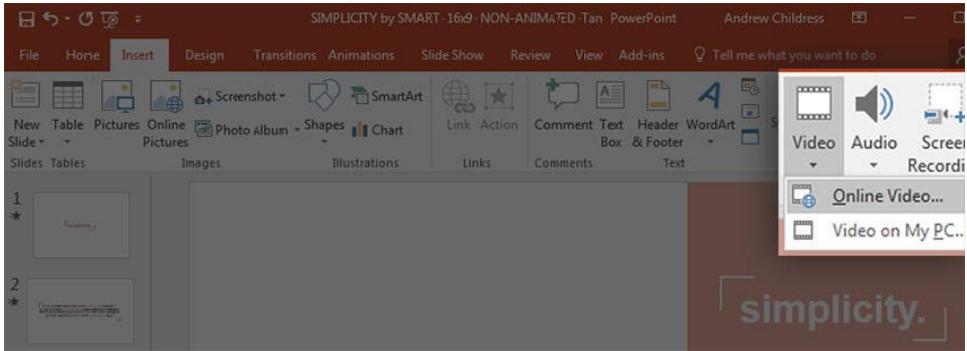
Figure 7.0 inserting a video online

To add an online video, choose **Insert > Video > Online Video** to get started.

Now, PowerPoint will show a new window to search for or add an online video. If you want to add a YouTube video, you can drop in the URL for a video, or search directly inside this box for a relevant clip.

Other sites might give you embed codes on their site. On sites like Vimeo or TED, try out the Embed code and dropping the HTML into the bottom box.
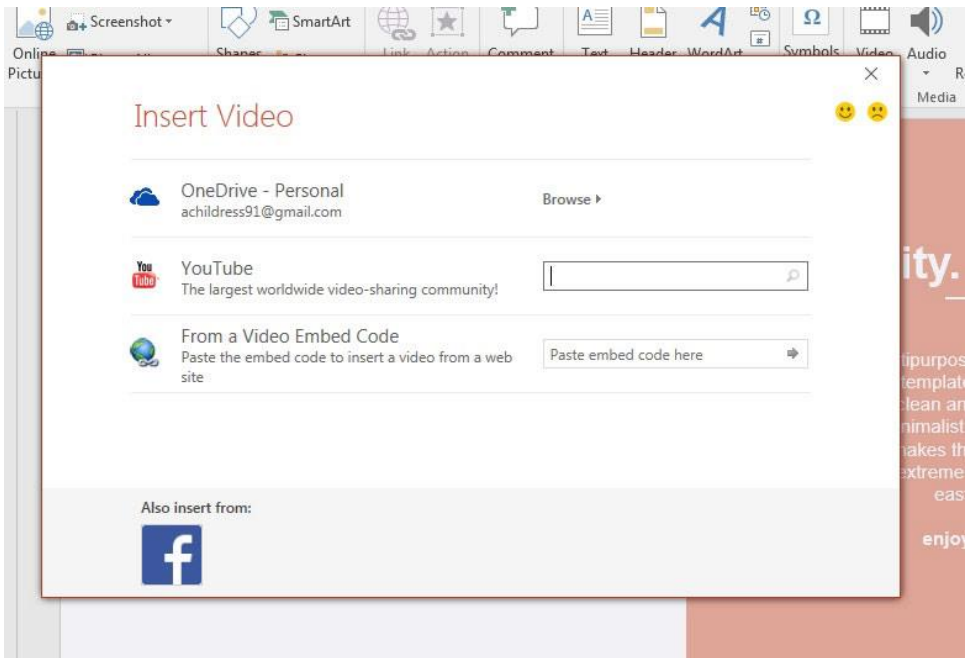
Figure 7.1 search box selection

Search for videos using the box or drop in a URL for a YouTube video of your choice.

Adding a YouTube video is a great way to include a video without increasing your PowerPoint file size. Instead of embedding the video inside the file, the link will play a YouTube video, right inside the presentation.

2.8.3 PowerPoint Video Playback Options

Just as PowerPoint has built-in tools to adjust images, the **Playback Options** are great to adjust how a video plays inside the presentation.

With the selected video, click on the "**Video Tools > Playback**" option on the ribbon, to access key settings to control the video.
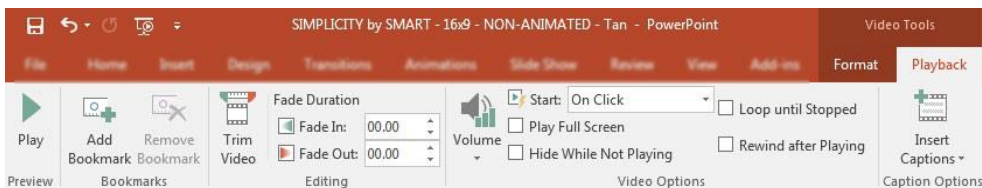
Figure 7.2 Video Tools > Playback selection

With a video selected, you can use the **Video Tools > Playback** options to edit your video inside of PowerPoint.

Here are several key options to try out to change how the video plays:

- **Start** - Change this option from "On Click" to "Automatically" to start playing the video as soon as the slide appears.
- **Play Full Screen** - With this option turned on, playing the video will cut to a full screen mode with the rest of the slide hidden.
- **Trim Video** - Open this option to select which parts of the video to reduce the video to the parts you want to show.

2.9 Finalizing and Protecting Presentations

Before sharing a presentation, you will want to make sure it does not include any information you want to keep private. You may also want to discourage others from editing your file. Fortunately, PowerPoint includes several tools to help **finalize** and **protect** your presentation.

2.9.1 The Document Inspector

Whenever you create or edit a presentation, certain **personal information** may be added to the file automatically. You can use the **Document Inspector** to remove this type of information before sharing a presentation with others.

Because some changes may be permanent, it is a good idea to use **Save As** to create a backup copy of your presentation before using the Document Inspector.

To use the Document Inspector:

1. Click the **File** tab to go to **backstage view**.
2. From the **Info** pane, click **Check for Issues**, and then select **Inspect Document** from the drop-down menu.
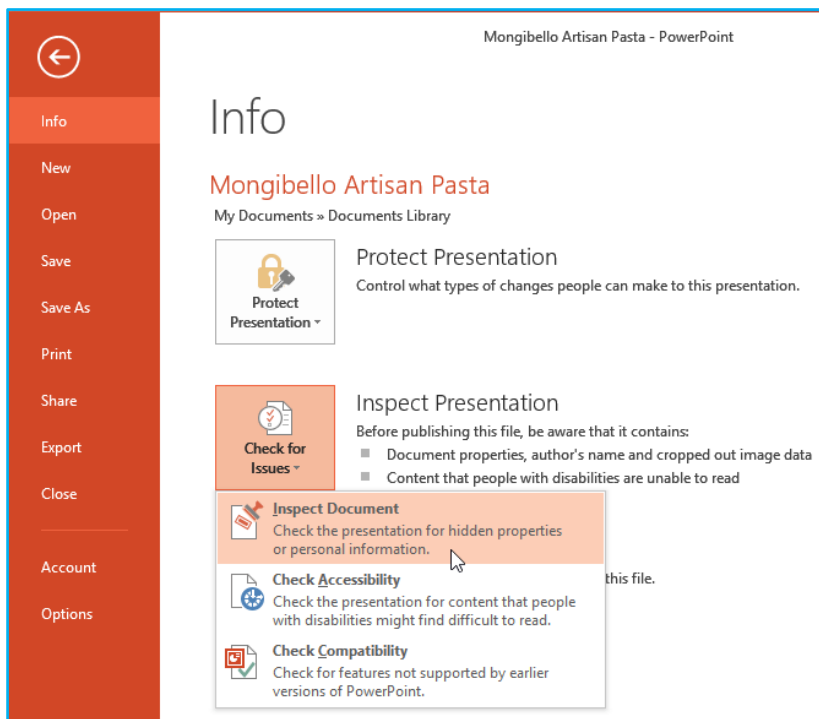
Figure 7.3 document inspector selection

3. The **Document Inspector** will appear. Check or uncheck the boxes, depending on the content you want to review, then click **Inspect**. In our example, we'll use the default selections.
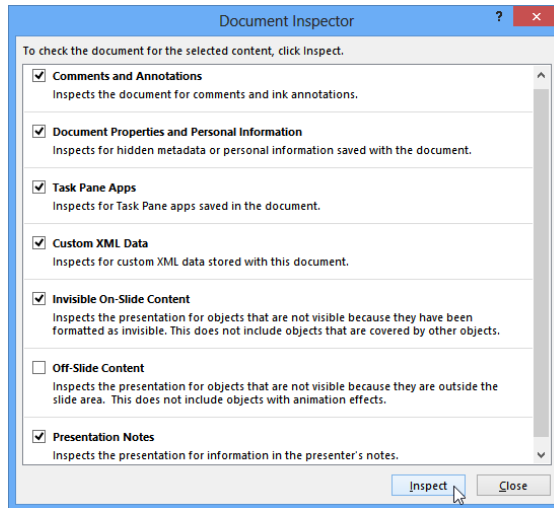
Figure 7.4 document inspector

4. The **inspection results** will show an **exclamation mark** for any categories where it found potentially sensitive data, and it will also have a **Remove All** button for each of these categories. Click **Remove All** to remove the data.
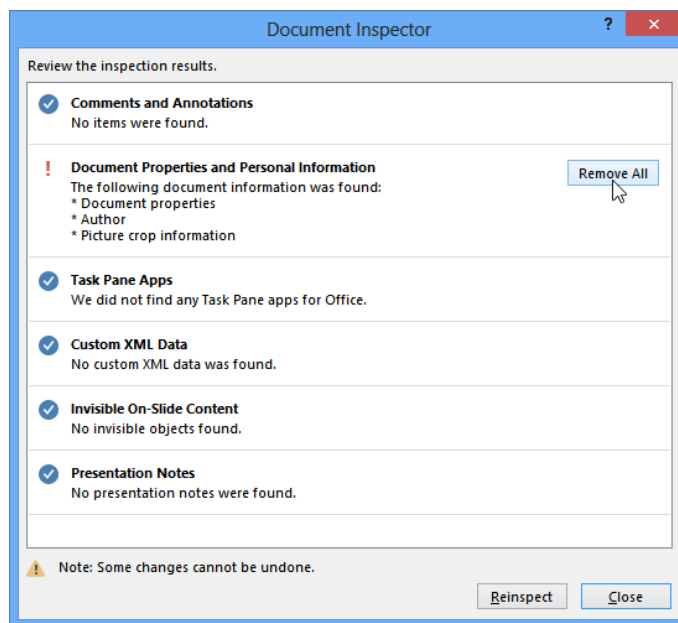
Figure 7.5 document inspection result

5. When you are done, click **Close**.
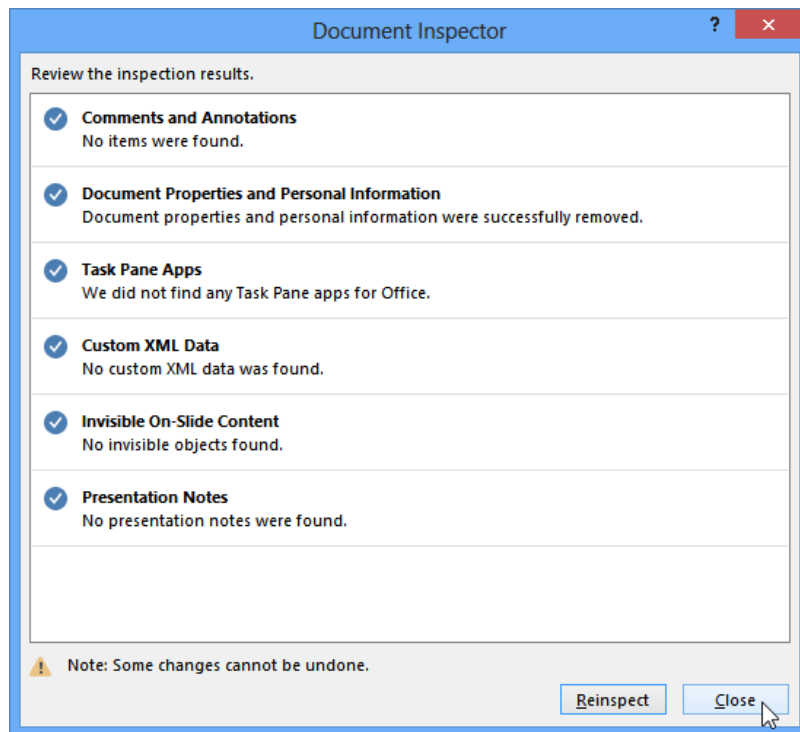
Figure 7.6 close selection

2.9.2 Protecting your presentation

By default, anyone with access to your presentation will be able to open, copy, and edit its content unless you **protect** it. There are several ways to protect a presentation, depending on your needs.

To protect your document:

1. Click the **File** tab to go to **backstage view**.
2. From the **Info** pane, click the **Protect Presentation** command.
3. In the drop-down menu, choose the option that best suits your needs. In our example, we'll select **Mark as Final**. Marking your presentation as final is a good way to discourage others from editing the file, while the other options give you even more control if needed.
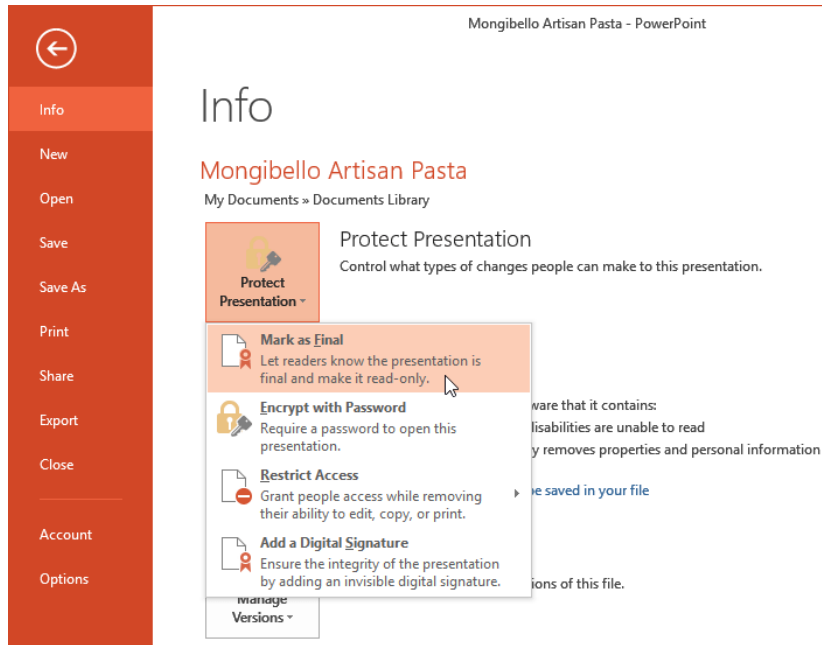
Figure 7.7 info tab selection

4. A dialog box will appear prompting you to save. Click **OK**.
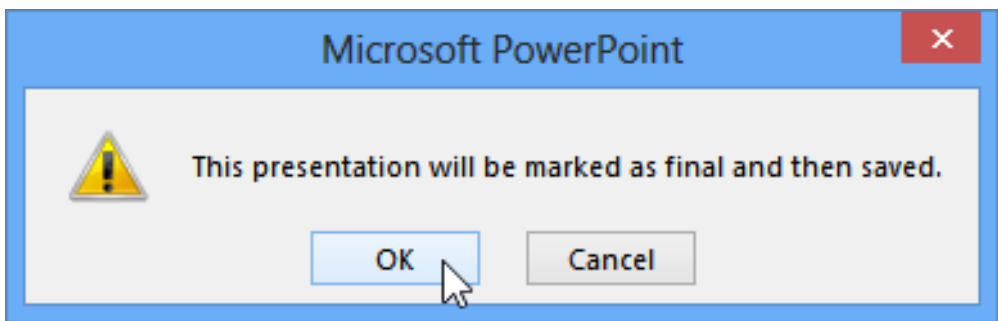
Figure 7.8 OK tab selection

5. Another dialog box will appear. Click **OK**.
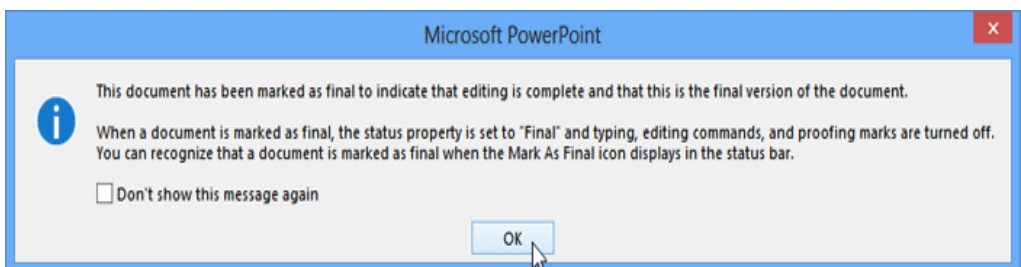
Figure 7.9 dialog box

6. The presentation will be marked as final.

Figure 8.0 final presentation

Marking a presentation as final will not prevent someone from editing it. If you want to prevent people from editing it, you can use the **Restrict Access** option instead.

Activity 2.4 : Protecting Your Presentation

1. Open an existing PowerPoint presentation.
2. Use the Document Inspector to check the presentation. Remove all personal information from the presentation.
3. Protect the presentation by marking it as final.

Discuss

Write down the steps you used to do the activity. Compare your steps with your partner. Do they contrast? Share the steps with the rest of your class.

Practical exercise

Demonstrate:

- How you can use Document Inspector and what is the role of it in PowerPoint presentation?
- How you can protect your presentation in MS PowerPoint?
- How you can insert online video in PowerPoint 2013?
- How you can customize slide layout?
- How you can record a slide show?

2.10 Visual Basic for Applications (VBA)

Visual Basic is a computer programming language that you studied in S3. It allows the creation of user-defined functions and the automation of specific computer processes and calculations. Users do not have to buy a copy of Visual Basic professional because Visual Basic for Applications is a standard feature of Microsoft Office products. Visual Basic for Applications (VBA) allows users additional customization beyond what is normally available in Microsoft Office products, such as Excel, Access, Word and PowerPoint.

Visual Basic for Applications an event-driven programming language that is now predominantly used with Microsoft office applications such as MS Excel, MS-Word, and MS-Access.

VBA helps to build customized applications and solutions to enhance the capabilities of those applications. The advantage of this facility is that you need not have visual basic installed on our PC; however, installing Office will implicitly help in achieving the purpose.

You can use VBA in all office versions, right from MS-Office 97 to MS-Office 2013 and also with any of the latest versions available. Among VBA, Excel VBA is the most popular. The advantage of using VBA is that you can build very powerful tools in MS Excel using linear programming.

In VBA, users type commands into an editing module to create a macro. Macros allow users to automatically generate customized charts, reports and perform other data processing functions. Macros automate tasks and merge program functions that enable developers to build custom solutions using Visual Basic. Visual Basic for Applications requires code to run within a host application such as Excel because it cannot run as a standalone application.

In the finance industry, VBA for Excel is frequently used to create and maintain complex financial spreadsheet models. Visual Basic for Applications for Excel is also used to create trading, pricing and risk management models, forecast sales and earnings and generate financial ratios.

It is user intuitive, which allows users with little or no computer programming knowledge to learn VBA. It is an event-driven programming language specifically designed to customize applications that contain the Visual Basic for Applications application-programming interface (API). It is used to control the functionality of Microsoft Excel and any other Microsoft Office application.

It can be used to keep lists of customers' names or other data, create invoices and forms, develop charts, analyze scientific data and for budgeting and forecasting. It can be used to control several features of a host application such as Excel, including manipulating user interface features, such as toolbars and menus and working with dialog boxes or customized user forms.

2.10.1 How It Is Used

In addition to Microsoft, numerous companies have used VBA to add the programming capabilities to their own applications. Visual Basic for Applications is also implemented in applications published by other companies including AutoCAD, ArcGIS, CATIA, CorelDraw and SolidWorks. VBA enables an application, such as Excel, to run a program internally and provide a customized version of Excel for a specific purpose, such as how long it takes to earn 1 million in an investment portfolio based on a specific interest rate and the number of years until retirement.

2.10.2 Application of VBA

MS-Excel provides only basic inbuilt functions which might not be sufficient to perform complex calculations. Under such circumstances, VBA becomes the most obvious solution.

For example, it is very hard to calculate the monthly repayment of a loan using Excel's built-in formulas. Rather, it is easy to program a VBA for such a calculation.

2.10.3 Inserting VBA code to Excel Workbook

How to use a VBA macro to remove line breaks from the current worksheet.

1. Open your workbook in Excel.
2. Press Alt+F11 to open *Visual Basic Editor* (VBE).
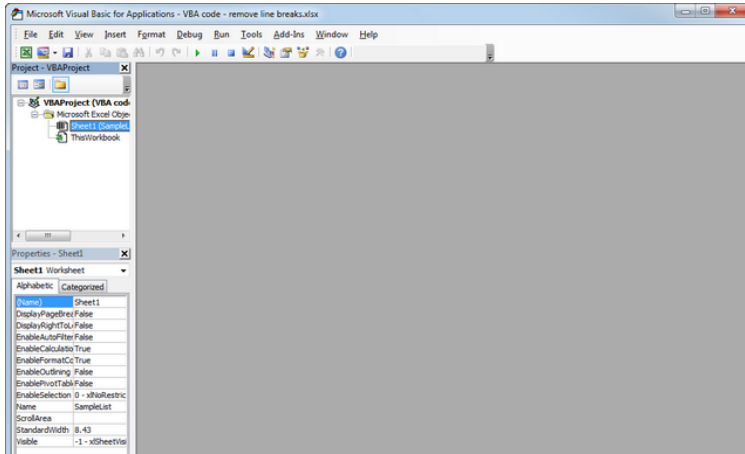
Figure 8.1 Visual basic editor

3. Right-click on your workbook name in the "*Project-VBAProject*" pane (at the top left corner of the editor window) and select *Insert -> Module* from the context menu.
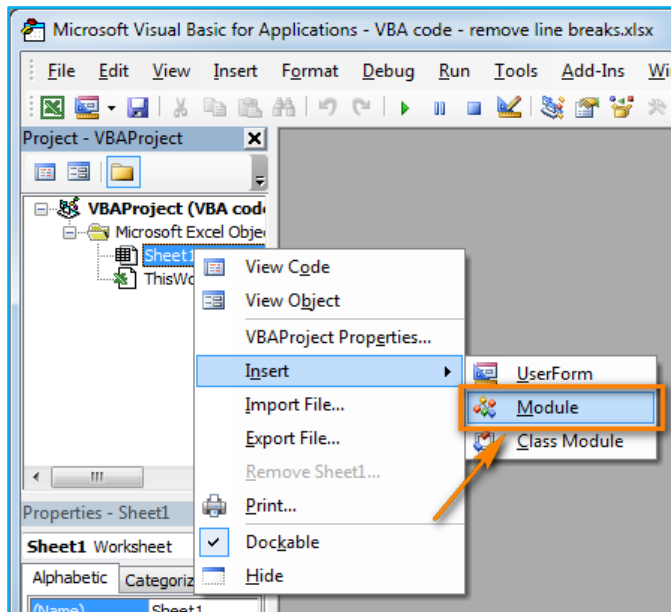
Figure 8.2 module selection

4. Copy the VBA code (from a web-page etc.) and paste it to the right pane of the VBA editor ("*Module1*" window).
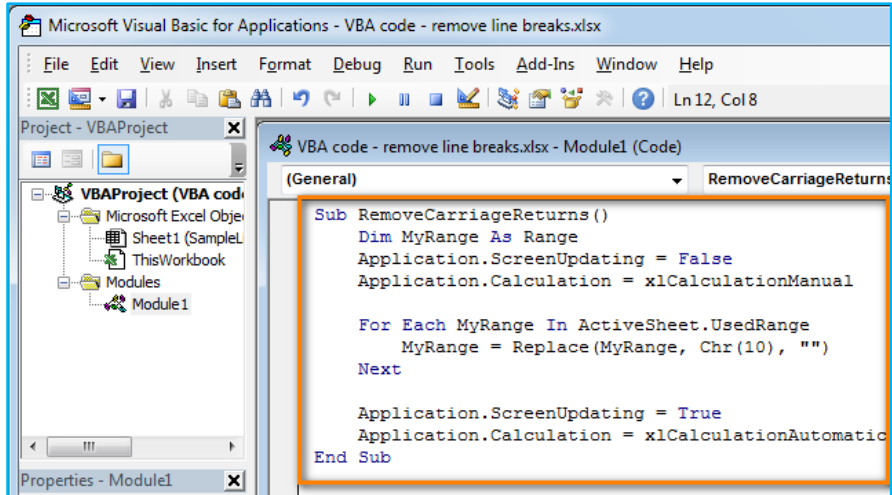
Figure 8.3 module 1 window selection

Tip: How to speed up macro execution.
If the code of your VBA macro does not contain the following lines in the beginning:
Application.ScreenUpdating = False
Application. Calculation = xlCalculationManual

5. Then add the following lines to get your macro to work faster (see the screenshots above):
   - □ To the very beginning of the code, after all code lines that start with *Dim* (if there are no "*Dim*" lines, then add them right after the *Sub* line):
     ```
     Application.ScreenUpdating = False
     Application.Calculation = xlCalculationManual
     ```
   - □ To the very of the code, before *End Sub*:
     ```
     Application.ScreenUpdating = True
     Application.Calculation = xlCalculationAutomatic
     ```

These lines, as their names suggest, turn off screen refresh and recalculating the workbook's formulas before running the macro.

After the code is executed, everything is turned back on. As a result, the performance is increased from 10% to 500% (the macro works 5 times faster if it continuously manipulates the cells' contents).

Save your workbook as "**Excel macro-enabled workbook**". Press Crl+S, then click the "*No*" button in the "*The following features cannot be saved in macro-free workbook*" warning dialog.
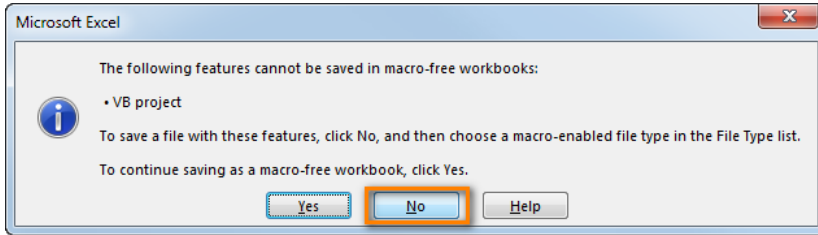
Figure 8.4 no selection

The "Save as" dialog will open. Choose "Excel macro-enabled workbook" from the "Save as type" drop-down list and click the Save button.
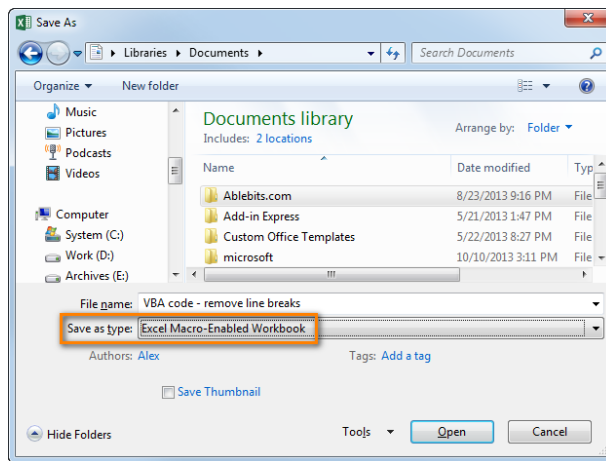
Figure 8.5 save as type dialog selection

Press Alt+Q to close the Editor window and switch back to your workbook.

2.10.4 How to run VBA macros in Excel

A macro is a piece of computer code that is written using the Visual Basic for Applications (VBA) programming language.

When you want to run the VBA code that you added as described in the section above: press Alt+F8 to open the "*Macro*" dialog.

Then select the wanted macro from the "Macro Name" list and click the "Run" button.
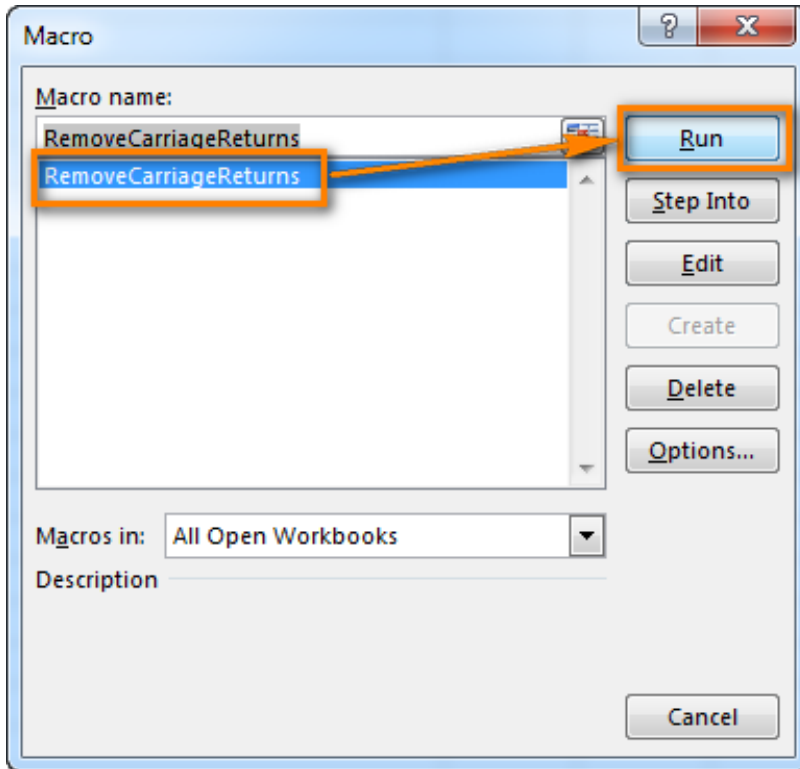
Figure 8.6 run selection dialogue

The words macro and function are often used interchangeably to refer to procedures written in Visual Basic for Applications (VBA). However, it is important to distinguish between SUB procedures, or macros, and FUNCTION procedures. The difference between the two is how they are invoked, and their ability to change the working environment.

Macros are pre-processed which means that all the macros would be processed before your program compiles. However, functions are not preprocessed but compiled.

See the following example of Macro:

```
#include<stdio.h>

#define NUMBER 10

int main()

{

    printf("%d", NUMBER);

    return 0;

}
```

Output:

```
10
```

See the following example of Function:

```c
#include<stdio.h>
int number()
{
    return 10;
}
int main()
{
    printf("%d", number());
    return 0;
}
```

Output:

```
10
```

Macros are no longer recommended as they cause following issues. There is a better way in modern compilers that is inline functions and const variable. Below are disadvantages of macros:

a) There is no type checking
b) Difficult to debug as they cause simple replacement.
c) Macro does not have namespace, so a macro in one section of code can affect other section.

Although Excel provides hundreds of Built-In Spreadsheet Functions, you can also create your own functions by writing Excel macros to perform specific tasks.

You can even add your own macros to the Excel's function menu, so that they are available to you in the same way as Excel's built-in functions.

Review Exercise

1. What is advanced formatting?
2. How are templates created in MS word?
3. How are templates created in MS PowerPoint?
4. How do you customize computer applications for automation and efficiency?
5. List the steps for creating a table of content in MS word
6. In order to move a picture freely around a MS word document, which setting must be changed?
7. What's the reason for adding a section break in a MS word document?
8. What are functions and macros and how are they used?
9. In order to prevent someone from editing a shared Word document, which option should the author use?
10. List the steps for creating a multimedia content in a MS PowerPoint

UNIT 3 WEBSITE DESIGN

SPECIFIC LEARNING OUTCOMES

By the end of this unit you should;

- ☐ Know the principles of and the techniques of design, management and updating of a website using basic website development software tools.
- ☐ Use appropriate basic software for website design
- ☐ Carryout website management and updating

Key inquiry questions

1. What is a website?
2. What basic software can be used for website design?
3. How websites are designed, hosted, managed and updated?
4. What is website content?
5. What are the security issues to be considered when setting up a website and why are they important?

3.0 Introduction to Web Design

Web design is the visual aesthetics and page layout of a website. It goes hand-in-hand with web development in the creation of a static website or dynamic web application.

The design is the first thing people notice when they arrive on a website, and if it is not good enough, they will leave. You do not want to create a site that frustrates people.

The website design process starts with a visual concept, which can be sketched by hand or with software like Photoshop. Then, you use HTML and CSS to build the website. HTML and CSS are the codes for writing web pages. HTML handles the basic structure the page, while CSS handles the style and appearance. Website design includes concepts like responsive design, aesthetics, usability and accessibility when building your site.

Responsive design is a popular technique for making websites look good and function well on additional devices, like phones and tablets. It does this by setting different CSS rules for different browser widths.

Activity 3.1

Work in pairs

1. What is the software used to design, manage and update a website?
2. What are the main differences between a blog and a corporate website?
3. What are the principles of website management and updating?

Group Discussion

Discuss and share your answers in groups, what are the similarities of the answers?

3.1 Hyper -text markup language (Html)

HTML is the standard markup language for creating Web pages. It describes the structure of Web pages using markup.

HTML elements are the building blocks of HTML pages these elements are represented by tags <>. These tags label pieces of content such as "heading", "paragraph", "table" etc.

Browsers do not display the HTML tags, but use them to render the content of the page.

HTML tags are element names surrounded by angle brackets:

<tagname>content goes here...</tagname>

- HTML tags normally come **in pairs** like <p> and </p>
- The first tag in a pair is the **start tag,** the second tag is the **end tag**
- The end tag is written like the start tag, but with a **forward slash** inserted before the tag name

The start tag is also called the **opening tag**, and the end tag the **closing tag**.

Example 1

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>
<h1>My First Heading</h1>
<p>My first paragraph. </p>
</body>
</html>
```

- The <!DOCTYPE html> declaration defines this document to be HTML5.
- The <html> element is the root element of an HTML page.
- The <head> element contains Meta information about the document.
- The <title> element specifies a title for the document.
- The <body> element contains the visible page content.
- The <h1> element defines a large heading.
- The <p> element defines a paragraph.
4. Copy the html code and copy them in a notepad program in your computer.
5. Save as:
   - file name: **name.html**
   - Save as type: **all files**

6. Open with your browser.
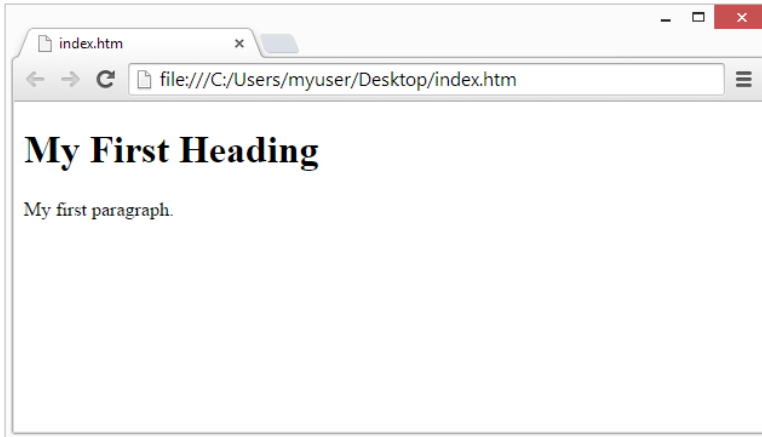
To make text bold, websites use the <strong> tag.

```
Closing tags are <strong>very</strong> important.
```

Here's the result:

Closing tags are **very** important.

The word 'very' has been bolded because it is surrounded by the `<strong>` tag.

Italics are much the same, but the `<em>` tag is used. Example:

```
In HTML, <strong>bold</strong> is for <strong>making text stand
out</strong>, and <em>italics</em> are for <em>emphasis</em>.
```

Result:

In HTML, **bold** is for **making text stand out**, and *italics* are for *emphasis*.

3.1.0 HTML Page Structure

Below is a visualization of an HTML page structure:

```
<html>
    <head>
        <title>Page title</title>
    </head>
    <body>
            <h1>This is a heading</h1>
            <p>This is a paragraph.</p>
            <p>This is another paragraph.</p>
    </body>
</html>
```

Figure 8.7 HTML page structure

Only the content inside the <body> section (the white area above) is displayed in a browser.

3.2 Cascading style sheets (CSS)

CSS describes how HTML elements should be displayed.

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: lightblue;
}

h1 {
    color: white;
    text-align: center;
}

p {
    font-family: verdana;
    font-size: 20px;
}
</style>
</head>
<body>

<h1>My First CSS Example</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

1. Copy the html code and copy them in a notepad program in your computer.
2. Save as:
   - file name: name.html
   - Save as type: all files
3. Open with your browser.
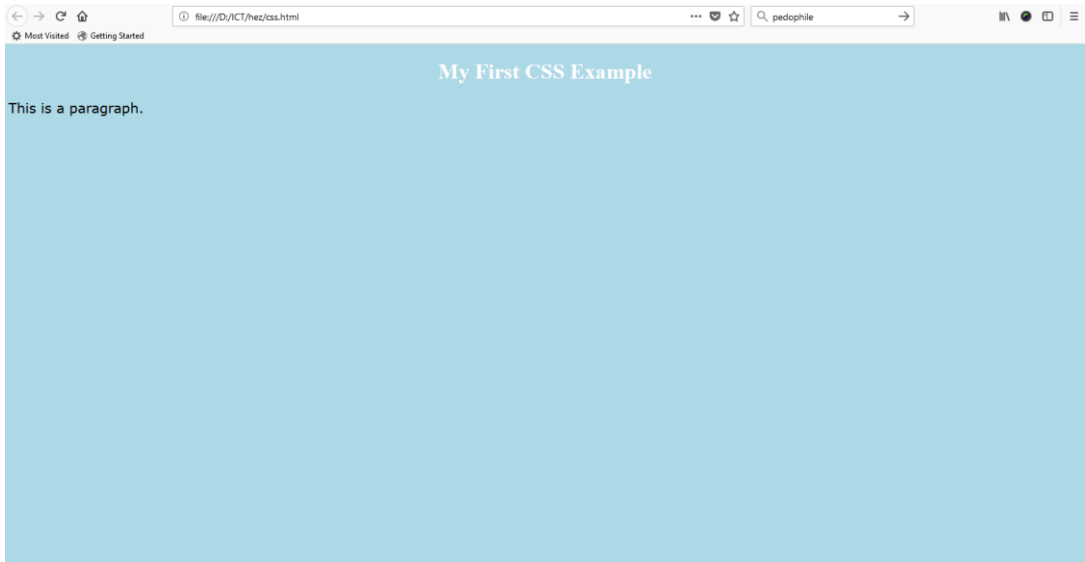
Figure 8.8 browser interface

3.2.1 CSS Syntax

A CSS rule-set consists of a selector and a declaration block:
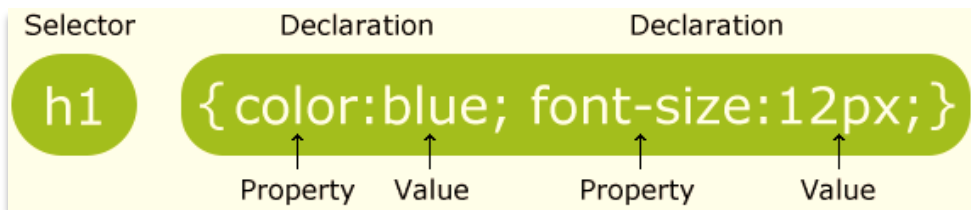
The selector points to the HTML element you want to style.

The declaration block contains one or more declarations separated by semicolons.

Each declaration includes a CSS property name and a value, separated by a colon. A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

In the following example all <p> elements will be center-aligned, with a red text color:

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
    color: red;
    text-align: center;
}
</style>
</head>
<body>

<p>Hello World!</p>
<p>These paragraphs are styled with CSS.</p>

</body>
</html>
```

Result;

Hello World!

These paragraphs are styled with CSS.
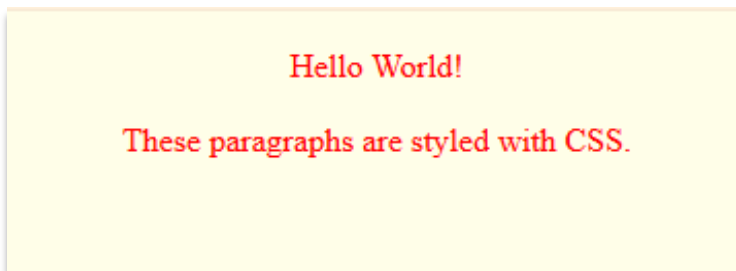
3.2.2 CSS Colors

HTML supports 140 standard color names. Colors are specified using predefined color names, or RGB, HEX, HSL, RGBA, HSLA values.

In HTML, a color can be specified by using a color name:

| Tomato | Orange | DodgerBlue | MediumSeaGreen |
| Gray | SlateBlue | Violet | LightGray |

```html
<!DOCTYPE html>
<html>
<body>

<h1 style="background-color:Tomato;">Tomato</h1>
<h1 style="background-color:Orange;">Orange</h1>
<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-color:Gray;">Gray</h1>
<h1 style="background-color:SlateBlue;">SlateBlue</h1>
<h1 style="background-color:Violet;">Violet</h1>
<h1 style="background-color:LightGray;">LightGray</h1>

</body>
</html>
```

Tomato

Orange

DodgerBlue

MediumSeaGreen

Gray

SlateBlue

Violet

LightGray

3.2.3 Background Color

```html
<!DOCTYPE html>
<html>
<body>

<h1 style="background-color:DodgerBlue;">Hello World</h1>

<p style="background-color:Tomato;">
Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod
tincidunt ut laoreet dolore magna aliquam erat volutpat.
Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut
aliquip ex ea commodo consequat.
</p>

</body>
</html>
```

Result;

Hello World

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

3.2.4 Text color

```
<!DOCTYPE html>
<html>
<body>

<h3 style="color:Tomato;">Hello World</h3>

<p style="color:DodgerBlue;">Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam
nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.</p>

<p style="color:MediumSeaGreen;">Ut wisi enim ad minim veniam, quis nostrud exerci tation
ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>

</body>
</html>
```

Result;
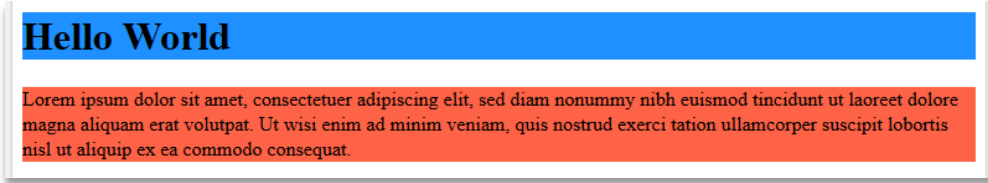
Hello World

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

3.2.5 Border color

```
<!DOCTYPE html>
<html>
<body>

<h1 style="border: 2px solid Tomato;">Hello World</h1>

<h1 style="border: 2px solid DodgerBlue;">Hello World</h1>

<h1 style="border: 2px solid Violet;">Hello World</h1>

</body>
</html>
```

Result:

Hello World

Hello World

Hello World

Practical activity

Work in pairs

1   Create a webpage in html. Include colors, a menu bar in the header, paragraph
     and contacts at the footer.

Discuss

Share and discuss your results with other groups. Which groups website is more
appealing?

3.3 Adobe Dreamweaver

Adobe Dreamweaver is an all-in-one visual development tool that allows you to
create, publish, and manage websites and mobile content. Adobe Dreamweaver
has powerful techniques for creating professional, dynamic websites using real-
world, hands-on exercises.
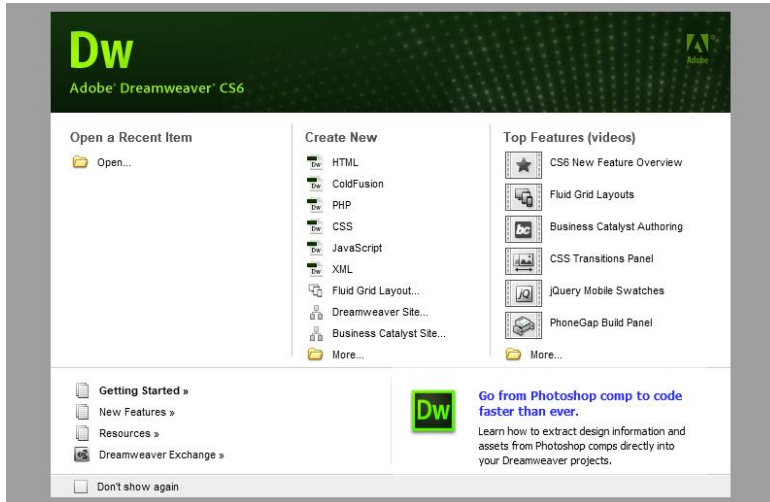
Figure 8.9 Adobe Dreamweaver cs6 interface.

3.3.1 The Benefits of Adobe Dreamweaver

Adobe Dreamweaver is an all-in-one visual development tool that allows you to create, publish, and manage websites and mobile content. Dreamweaver provides a visual workflow with advanced site management capabilities and support for technologies such as:

- JavaScript
- PHP
- XML

Adobe Dreamweaver makes it easy for anyone to build a professional looking web page, and it reduces the time it takes to create and maintain web sites.

Adobe Dreamweaver has powerful techniques for creating professional, dynamic websites using real-world, hands-on exercises.

3.3.2 Planning a Website Design

1. **Planning a Website:** Think about your potential audience and what you want them to do when they come to your website. Then think about what the site needs to do to help them achieve it.
2. **Creating a Sitemap:** Create a visual Site Map of your website and decide how the content will be grouped. Also determine what functionality the pages will have and what kind of navigation system you will be using. Consider usability as well as design, and get your client to approve a Site Map before starting the design work.

2. **Developing Website Visuals:** Designing and building a successful website always starts with solid, thoughtful planning. Consider all the elements that'll appear on a page before beginning site construction.

3.3.3 Creating thumbnails

Many web designers start by drawing thumbnails with pencil and paper. Think of thumbnails as a graphical shopping list of the pages you will need to create for the website. Thumbnails can also help you work out the basic website navigation structure. Draw lines between the thumbnails showing how your navigation will connect them.
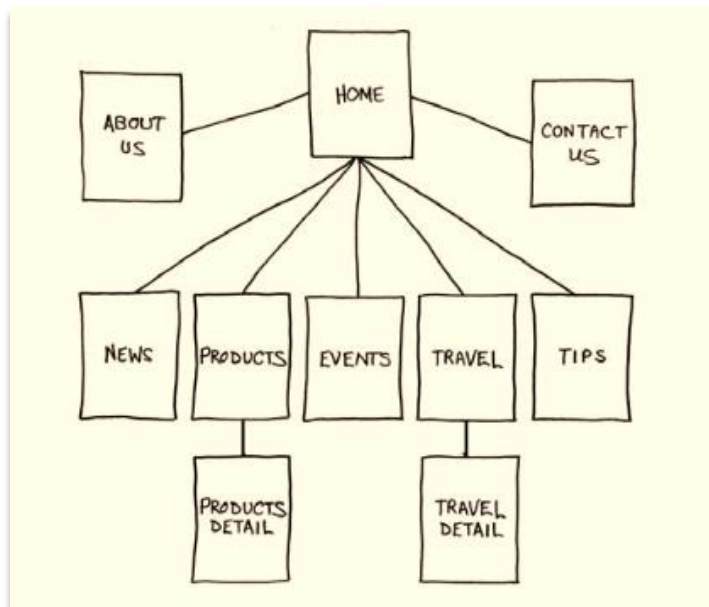
Thumbnails list the pages that need to be built and how they are connected to each other.

Most sites are divided into levels. Typically, the first level includes all the pages in your main navigation menu, the ones a visitor can reach directly from the home page. The second level includes pages you can reach only through specific actions or from specific locations, say from a shopping cart or product detail page.

3.3.4 Creating a page design

Once you have figured out what your site needs in terms of pages, products, and services, you can then turn to what those pages will look like. Make a list of components you want on each page, such as headers and footers, navigation, and areas for the main content and the sidebars (if any). Put aside any items that will not be needed on every page. What other factors do you need to consider?

1. **Header** (include banner logo)
2. **Footer** (copyright information)
3. **Horizontal navigation**(for internal reference, i.e. home, about us, contact us)
4. **Vertical navigation**(links to product and services)
5. **Main content**(one column, with a chance of two or more)

Do you have a company logo, business identity, graphic imagery, or color scheme you want to accent? Do you have publications, brochures, or current advertising campaigns you want to emulate? It helps to gather them all in one place so you can see everything all at once on a desk or conference table.

Once you have created your checklist of the components that you will need on each page, sketch out several rough layouts that work for these components. Most designers settle on one basic page design that is a compromise between flexibility and sizzle. Some site designs may naturally lean toward using more than one basic layout. But resist the urge to design each page separately. Minimizing the number of page designs may sound like a major limitation, but it is key to producing a professional-looking site. It is the reason why some professionals, like doctors and airline pilots, wear uniforms. Using a consistent page design, or template, lends a sense of professionalism and gives confidence to your visitor.
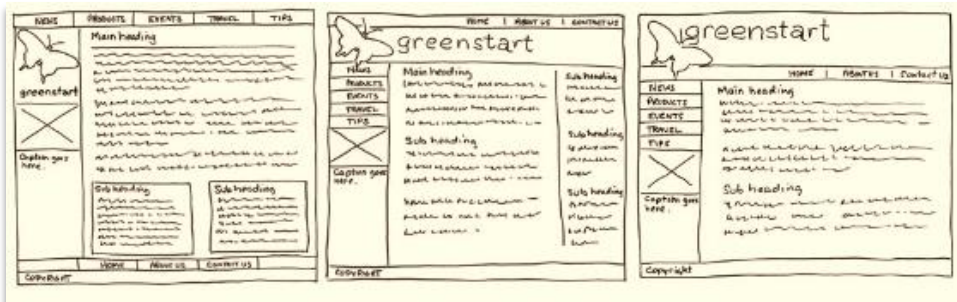
While you figure out what your pages will look like, you will have to address the size and placement of the basic components. Where you put a component can drastically affect its impact and usefulness. In print, designers know that the upper-left corner of a layout is considered one of the "power positions," a place where you want to locate important aspects of a design, such as a logo or title. This is because in western culture people read from left to right, top to bottom. The second power position is the lower-right corner because this is the last thing your eyes will see when you are finished reading.

Unfortunately, in web design this theory does not work so well because of one simple reason: You can never be certain how the user is seeing your design. Are they on a 20-inch flat panel or a 2-inch cell phone?

In most instances, the only thing you can be certain of is that the user can see the upper-left corner of any page. Do you want to waste this position by slapping the company logo here? Or, make the site more useful by slipping in a navigation menu? This is one of the key predicaments of the web designer. Do you go for design sizzle, workable utility, or something in between?

Activity 3.2: Creating A Webpage Design

1. If you were designing a website for a school what content you would include in the;
    - ☐   Header
    - ☐   Main content
    - ☐   Horizontal navigation
    - ☐   Vertical navigation
    - ☐   Footer

Discuss in groups

Write a brief content on each section of the website and compare and contrast with your group members. Present the best content to the class.

3.3.5 Creating wireframes

Wire framing is an important step in website design process because it allows you to define the information hierarchy of your design, making it easier for you to plan the layout according to how you want your user to process the information.
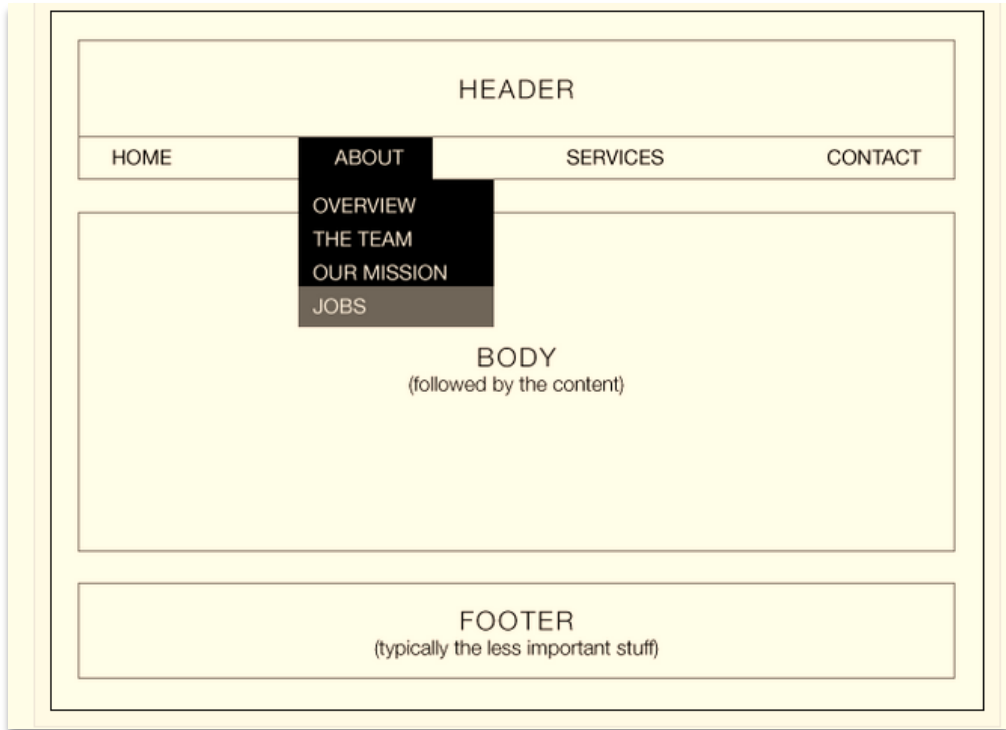
Wire framing allows the designer to plan the layout and interaction of an interface without being distracted by colors and typeface choices.

Wire framing is a fast way to work out the structure of each page in the site. A wireframe is like a thumbnail, but bigger, that sketches out each page and fills in more details about the components, such as actual link names and main headings. This step helps to catch or anticipate problems before you smack into them when working in the code.
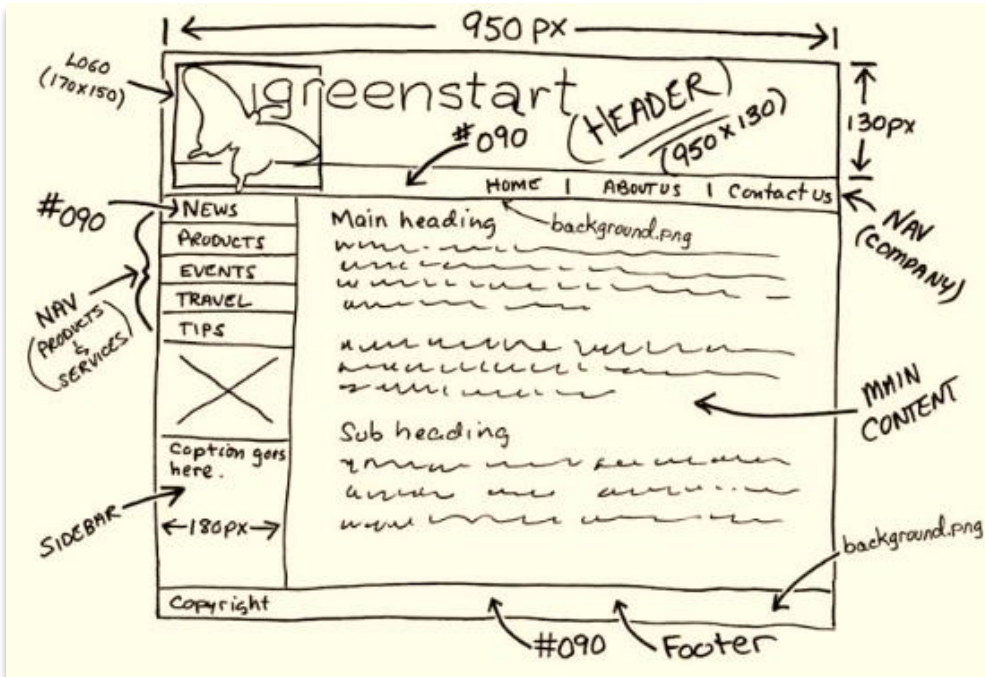
The wireframe for the final design should identify the components and feature markup for content, color, and dimensions. Once the basic concepts are worked out, many designers take an extra step and create a full-size mockup or "proof of concept" using a program like Adobe Fireworks, Photoshop, or even Illustrator. It is a handy thing to do because you will find that some clients just are not comfortable giving an approval based only on pencil sketches.

The advantage here is that all these programs allow you to export the results to full-size images (JPEG, GIF, or PNG) that can be viewed in a browser. Such mockups are as good as seeing the real thing but may take only a fraction of the time to produce.

In some cases, creating a mockup in Photoshop, Fireworks, or Illustrator can save hours of tedious coding to receive a needed approval.

Design process can be started in Fireworks, where a fully functional mockup can be created (with menus, links, and hotspots) that can then be exported to a CSS-based HTML layout and then edited in Dreamweaver.

As you go through the following section it would be useful to work on the computer and gain practical experience of building a website.

3.3.6 Building a Website

2. **Create a Local Root Folder**

Create a local root folder and put it on a desktop. This is where all the files and subfolders will be saved as we work on Dreamweaver CS6. Though Dreamweaver can do this for us using the default folder and location, it is better to create your own folder which easy to find and manage.

3. **Creating a New Site**
    - On the Menu Bar click on Site and a drop down menu will appear. You can also do this on the Application Bar since there is specific button there for Site as well.
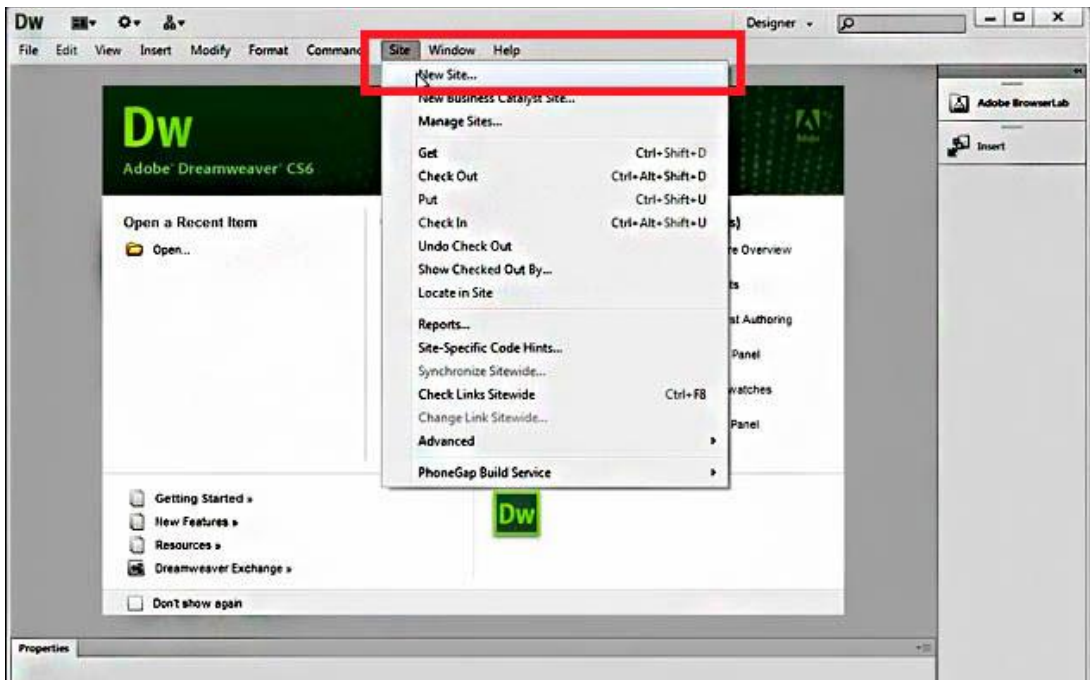
- Choose New Site to bring up the Site Setup Dialog Box.

- By default, the name of the site is Unnamed Site 2. Change the Site Name by typing in the name of the site that we will be working on.
- By default, Local Site Folder is assigned to C:\User\Username\Documents\Unnamed Site 2. Browse the root folder by clicking the open folder icon.
- Double-click the root folder, and then click Select.
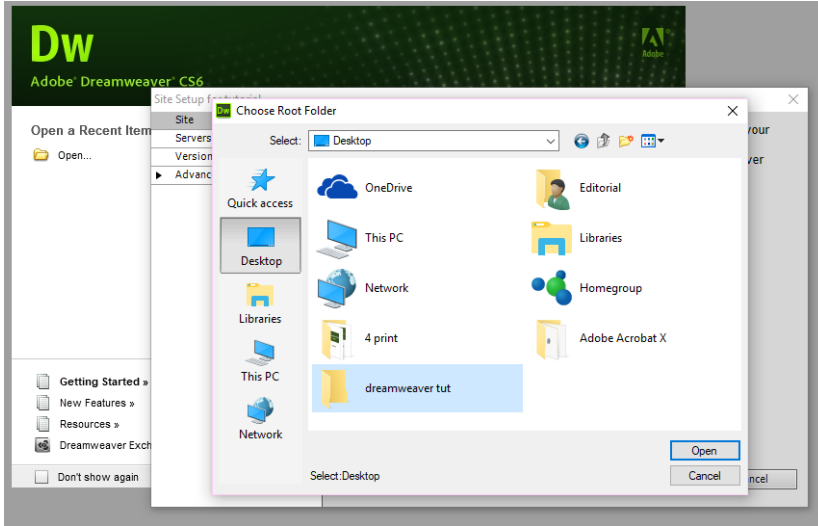
- Click Save once the Site Name and Local Site are all setup.
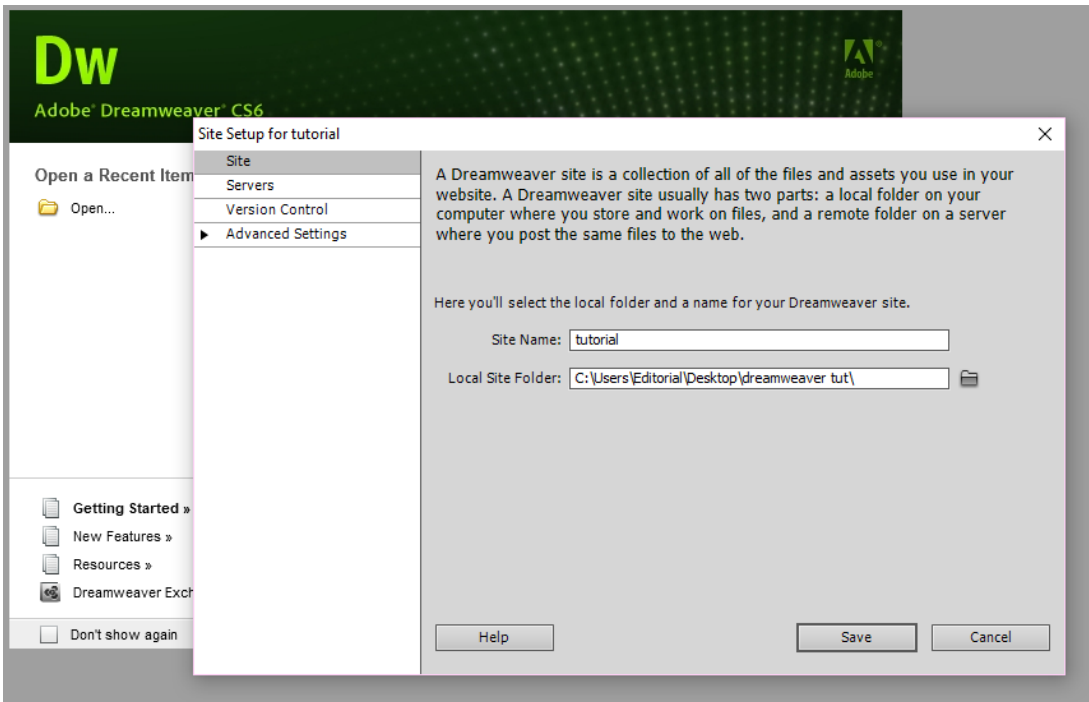
After saving, a Files Panel with Assets Panel will pop-up. The Files Panel keeps track of all the files are going to be used in website. You can either close it or click the

little double arrow to collapse it into icons. When it collapses into icons, it becomes a smaller panel which allows you to move it anywhere you want to keep it out of the way.

Naming Conventions

Here are some things to avoid when naming files or folders for Web use:

- Spaces (For example, my file.html is an invalid filename.) have you ever noticed the characters %20 in a URL? This results when the browser or server converts a space in a URL into a code that is more universally understood by computers.
- periods that do not immediately precede a file extension (myfile.html is correct; my.file.html is not)
- any character that is not a letter, number, dash, or an underscore (while underscores are legal, they are often unnecessary, creating barriers in linking and typing the URL)
- Capitalization (Technically, capitalization is legal, but like underscores, capital letters may not be recognized properly and create unnecessary barriers in linking and typing the URL.)

3.3.7 Creating a New Document Using a Blank Page

Put some content in the website using the File Menu from the Welcome Screen.

1. On the Welcome Screen, go to the File Menu and click on New. This brings up the New Document Dialog which contains many options for creating New Documents in Dreamweaver.
2. Select Blank Page on the first column and then pick a Page Type.
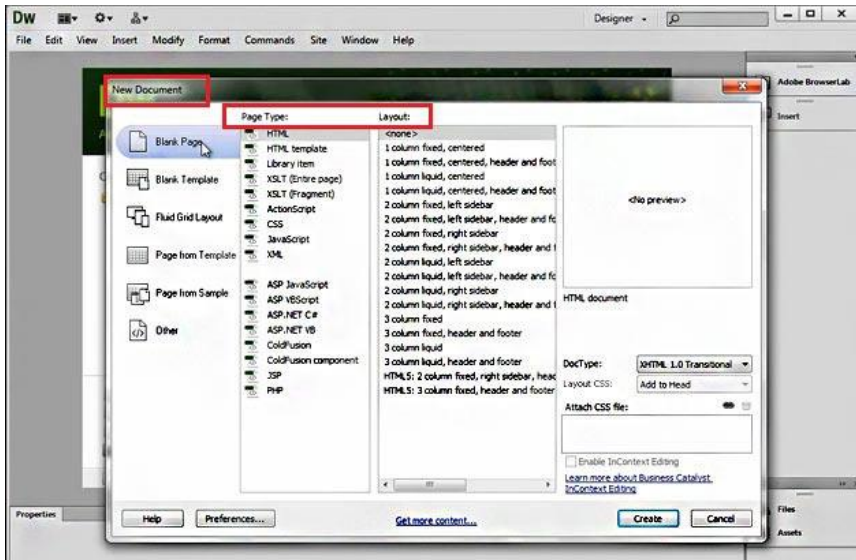
Figure 9.0 creating a new document using a blank page856

3.3.8 Choosing a Blank HTML Page

There are many Page Type options for the new document for the website in Dreamweaver CS6. The first option for Page Type is HTML. Keeping HTML selected, there are numerous page layouts to choose from.

1. Click on HTML in the second column of the New Document Dialog.
2. In the third column named Layout, select one of the layouts for your page.
3. When done selecting Page Type and Layout, click on Create.
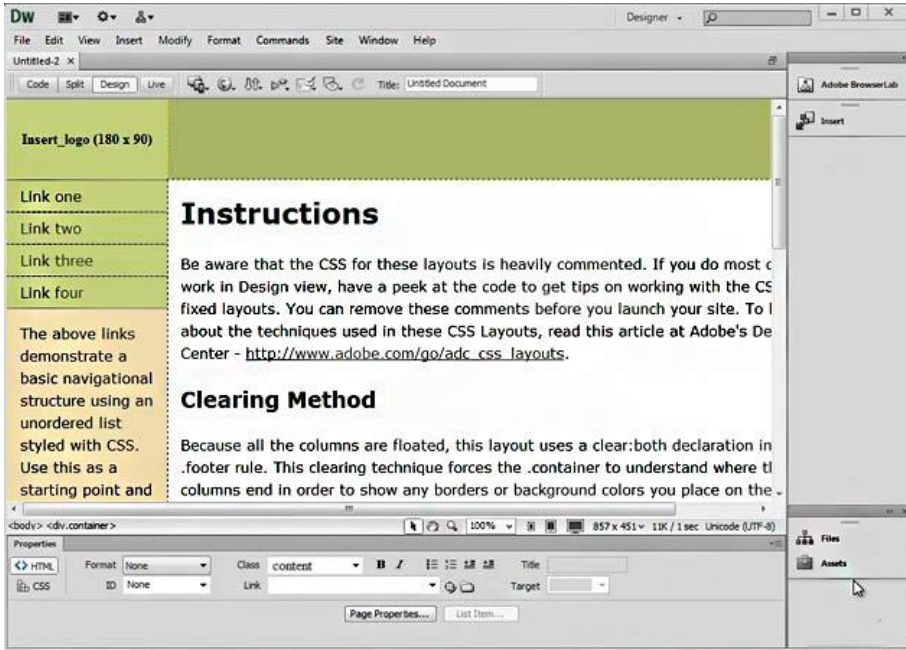
Figure 9.1 choosing a blank HTML page

3.4 The Dreamweaver Interface

3.4.1 Panels

All of Dreamweaver's tools are contained in various windows and panels. Panels are divided and organized into a series of Panel Groups based on the functions they contain. You can control which of these panel groups is visible by selecting and deselecting them in the `Window` menu. The checked items are currently showing:
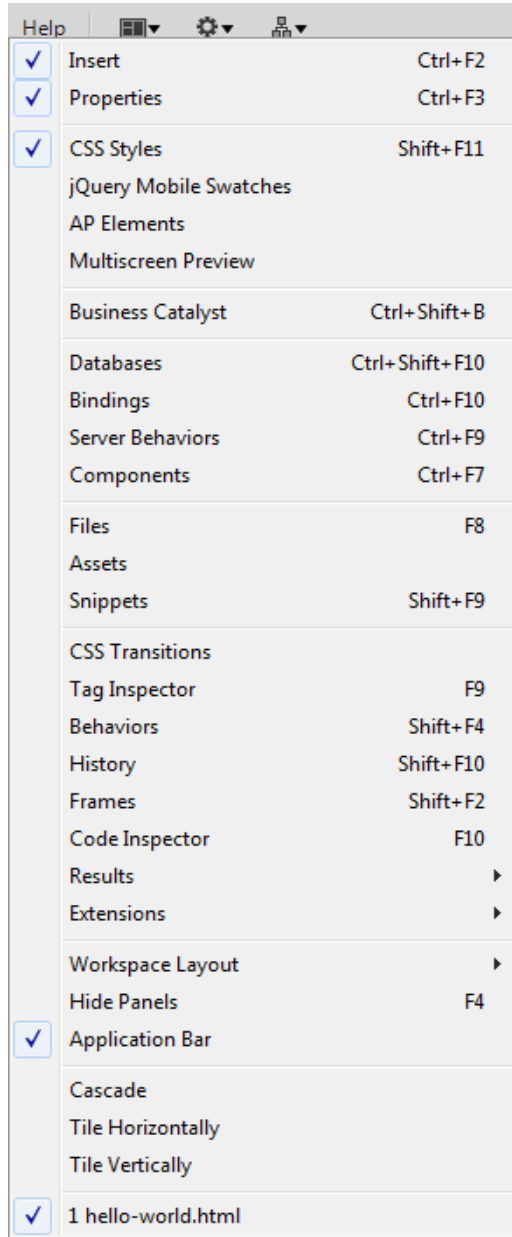
Figure 9.2 panels window

3.4.2 The Insert Panel

The `Insert` panel (shown in the nest page) allows you to insert various "objects" (such as tables, forms, and images) into your page. You can format or set attributes for these objects as you insert them.
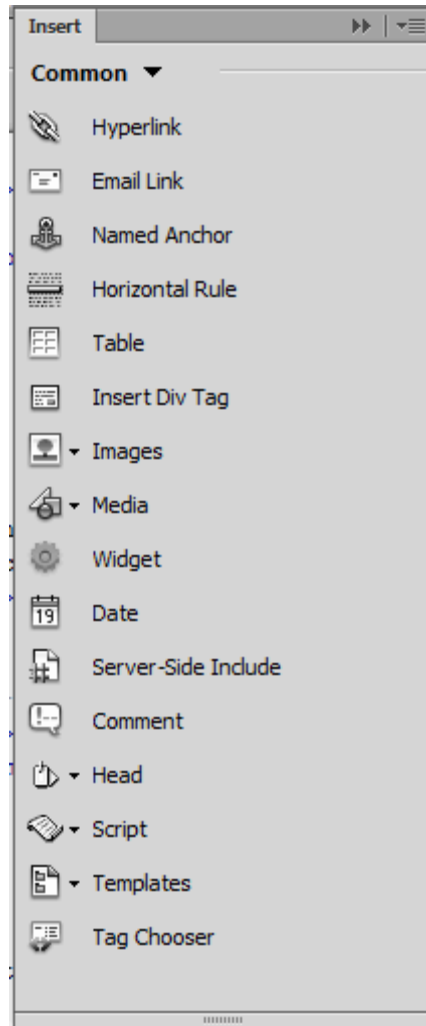
Figure 9.3 insert panel window

The Dreamweaver CS6 `Insert` panel has several groupings of related objects:

- `Common` (shown above) - for most commonly used objects.
- `Layout` - for divs, spry objects, and table elements.
- `Forms` - for form elements.
- `Data` - for spry data objects and other dynamic elements, such as record sets.
- `Spry` - for building spry pages.
- `JQuery Mobile` - for building jQuery Mobile pages.
- `InContext Editing` - for creating InContext editable regions within pages.
- `Text` - for text-centric tags (e.g., headings, lists, inline tags, etc.).
- `Favorites` - can be customized to display just the options that you use most often.

The Dreamweaver CC `Insert` panel has several groupings of related objects:

- `Common` (shown above) - for most commonly used objects.
- `Structure` - for divs, and lists.
- `Media` - for media elements.
- `Form` - for form components.
- `JQuery Mobile` - for building jQuery Mobile pages.
- `JQuery UI`- for building jQuery User Interface.
- `Templates` - for creating template regions within pages.
- `Favorites` - can be customized to display just the options that you use most often.

3.5 Properties Inspector

The Properties Inspector (shown below), which appears at the bottom of Dreamweaver in the Designer workspace, is context-based, meaning it will change depending on what type of object is selected. For example, if text is selected, text properties will be visible; if an image is selected, image properties will be visible, and so on:
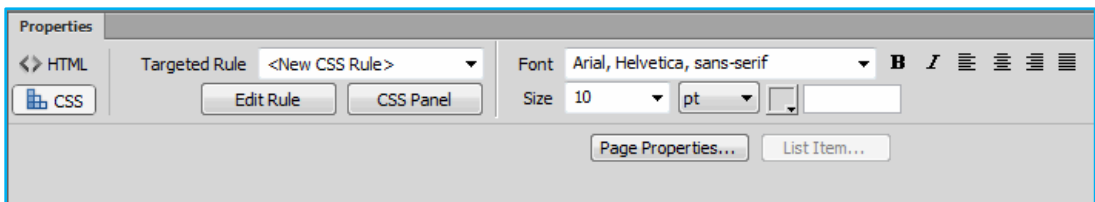
Figure 9.4 properties inspector window

Every page element can be customized via the `Properties Inspector`. For example, text can have a specified font, size, and style. Images can have a specified height, width, and source. To customize an element, select it within the `Document Window` (the main editing area) and make alterations via the `Properties Inspector`.

The `Properties Inspector` is split into two sections: `HTML` and `CSS`. Click on the `HTML` or `CSS` icons on the left side of the inspector to switch between the two.

Note CS6: When the CSS icon is selected and you attempt to change properties of text, Dreamweaver will automatically open the `New CSS Rule` dialog prompting you to create a new CSS rule. These rules will all be covered later in the course.

Note CC: When the CSS icon is selected and you attempt to change properties of text, Dreamweaver will automatically create a new Inline CSS rule. These rules will all be covered later in the course.

3.5.1 Files Panel

The `Files` panel (shown below) keeps track of all of the files and folders within your site. It can also be used to browse the files on a computer or network just as
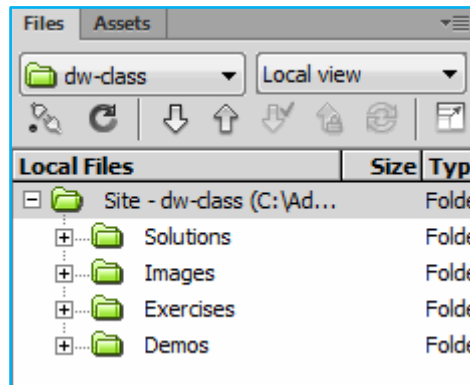
Figure 9.5 files panel

3.5.2 Changing Views in the Document Window
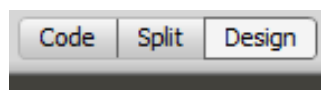
- Code View - Edit and view your web page's HTML.
- Split View - Divides both the Design and Code view to allow you to see the HTML coding as you lay out your website. One pane displays your HTML code while the other pane shows you the page as it may appear in the web browser. This view allows a designer mobility between the coding and the layout. It is also best used when you want to debug or troubleshoot a webpage.
- Design View - Edit your web page the way it may appear in your web browser without needing to manually enter code.

3.5.3 Document Toolbar

The rest of the Document Toolbar includes many other important features:

- Live - Preview what your page will look like live on the Web without leaving Dreamweaver. Click the Live View button to toggle these views.
- You cannot edit your page in Design view while Live is active; you must click the button again to leave live view.
- Multiscreen Preview - Test what your page will look like at different breakpoints.
- Preview/Debug in Browser - See your page on any browser you have installed on your computer. Always test your webpages in multiple browsers!
- Validate Current Document (W3C) - Test for validation within Dreamweaver.
- Visual Aids - Display or hide element borders in Design view.

3.6 Exploring Dreamweaver
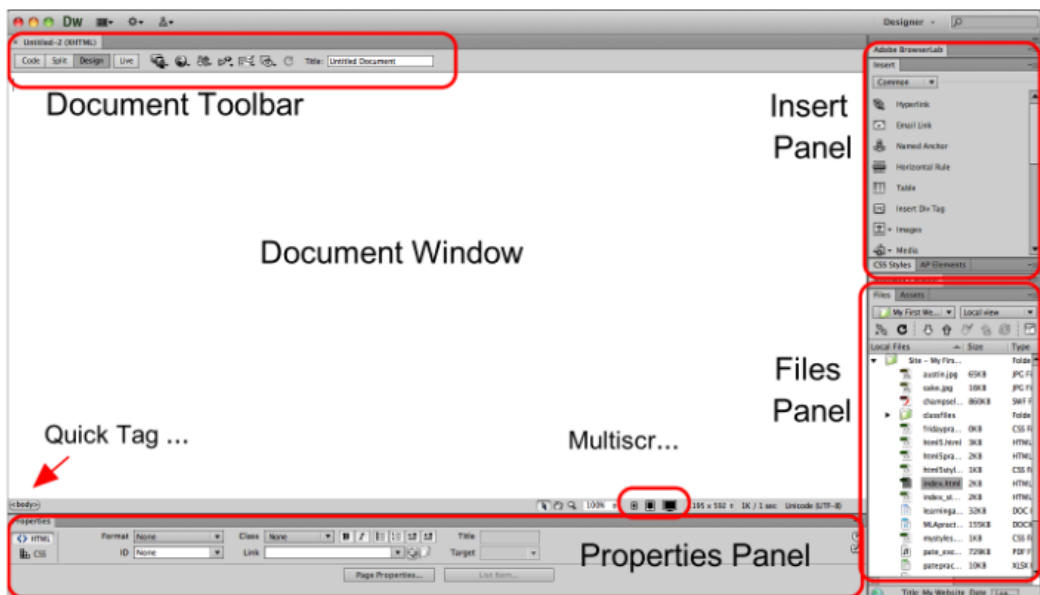
Figure 9.6 Dreamweaver workspace

Dreamweaver's workspace consists of the Document Window and a collection of panels, each containing a series of options for formatting, managing and inserting content.

- **Document Window:** the browser-approximate main workspace where web pages are created and edited using the panels and toolbars.
- **Files Panel:** view and manage the files in your Dreamweaver site.

- **Insert Panel:** create and insert new elements (anything that is manually inserted onto your Document Window).
- The buttons found in this toolbar are organized into categories. Select categories using the dropdown menu above the icons.
- **Properties Panel:** edit the attributes and formatting of any page element that is currently selected on your web page. Take note that your Properties Panel buttons and options may change to reflect any attributes of any selected element, such as when an image is selected.
- **Quick Tag Editor:** Displays how a selected element is nested and lets you change code while still in Design view.
- **Multiscreen Preview:** Test your page to see how it will render at three common device breakpoints.

The Title Element

- Title Field - Enter a title for your page, no longer than 65characters. This text is visible to visitors in the browser and in search engine results.

In the Document toolbar's Title text field, type in a brief but descriptive title for your page. Press Enter (Windows) or Return (Mac). The page title appears at the top of the browser when the page is being viewed, in search engines when your site is listed among search results, and is the name used by browsers when the page is bookmarked. Titles should be less than 65 characters (including spaces) to prevent getting cut off when listed in search engine results. The most important/unique part of the title should come first.

Activity 3.3: creating a web page

Follow the steps above and create a web page of a school.

Discuss

Design a mockup illustration of the website. Share with your group which is the most unique illustration? What are the similarities and differences of these illustrations?

Exercise 3.1

1. In this exercise, you will create and view a simple web page.
    a) Create a new HTML page using any of the methods described above.
    b) Place the cursor on the page and type "Hello world!"
    c) Save the page (File > Save) as hello-world.html in your Class Files/Dreamweaver/Exercises folder.
    d) When you are done, make a screenshot of your page using a snipping tool.
    e) Write the steps you used to create the page.

2. In this exercise, you will modify your `Preview in Browser` settings and preview a page in different browsers.
    a) Open ClassFiles/Dreamweaver/Exercises/hello-world.html in Dreamweaver if it is not already open.
    b) Preview the page in `Live View`.
    c) Preview the page in one or more browsers.
    d) Make some small modification to the page and preview again.

3.7 Adding Content to Your Page

3.7.1 Paragraphs, Headings and Block quotes

Paragraphs

The paragraph is the default format for a block of text. Just like in a word processor, when you press Enter at the end of one paragraph, Dreamweaver begins a new paragraph.

To illustrate let us add a paragraph to ClassFiles/Dreamweaver/Exercises/hello-world.html:

1. Open ClassFiles/Dreamweaver/Exercises/hello-world.html in Dreamweaver if it is not already open.
2. Place your cursor at the end of the first line of text and press Enter (Return on a Mac).
3. Type the following:
   - The text 'Hello world!' is very often used in the first exercise of programming classes.
4. Save your page.
5. Preview the page in your browser (File > Preview in Browser). It should appear as follows:
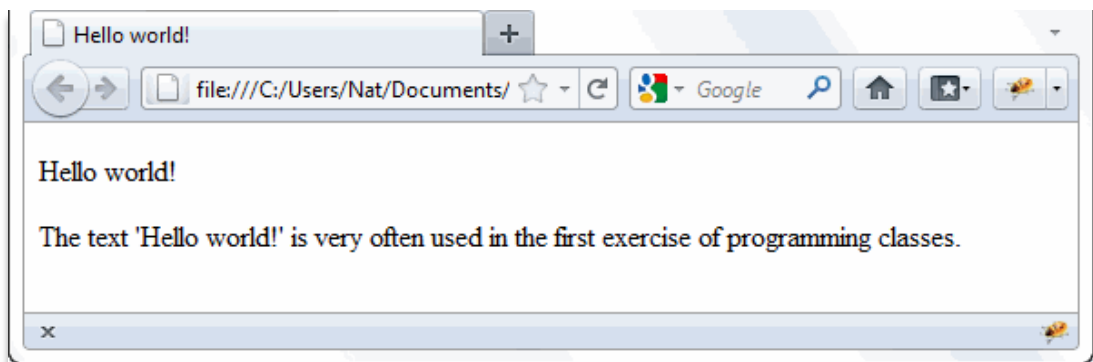
3.7.2 Headings

HTML supports six levels of headings. **Heading 1** is the most important and **Heading 6** is the least important. Like paragraphs, headings are block-level elements, meaning that they affect the whole line of text (or multiple lines if the heading is long enough to wrap).

There are several ways to add headings in Dreamweaver, but the most common is to use the Properties Inspector. To illustrate:

1. Open ClassFiles/Dreamweaver/Exercises/hello-world.html in Dreamweaver if it is not already open.
2. Place your cursor anywhere in the first paragraph (i.e, the "Hello world!" paragraph).
3. Select "Heading 1" for the `Format` in the `Properties Inspector:`
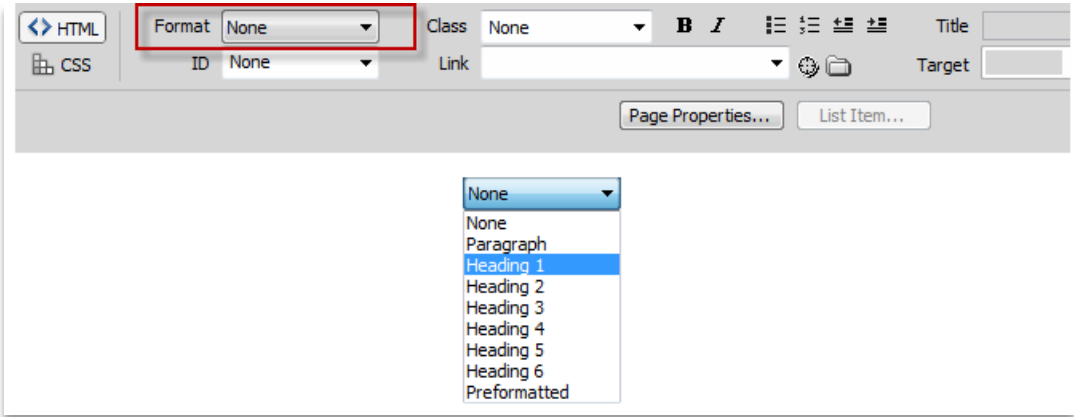
4. Save your page.
5. Preview the page in your browser (File > Preview in Browser). It should appear as follows:
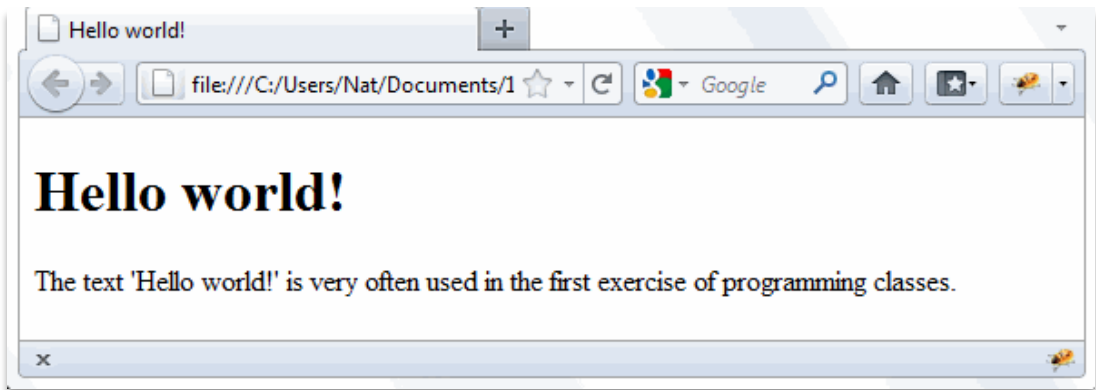
You can also add headings from the Format menu or using shortcut keys:
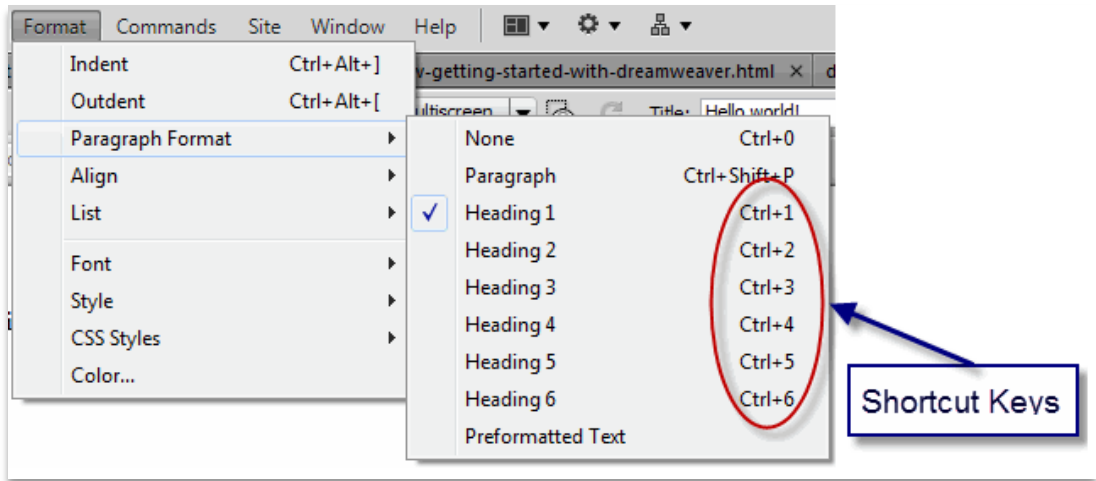
To add a new paragraph after a heading, place the cursor at the end of the heading text and press Enter.

3.7.3 Block Quotes

Block quotes are used to designate quoted blocks of text. In Dreamweaver, block quotes are added by clicking on the `Block quote` icon in the `Properties Inspector`:
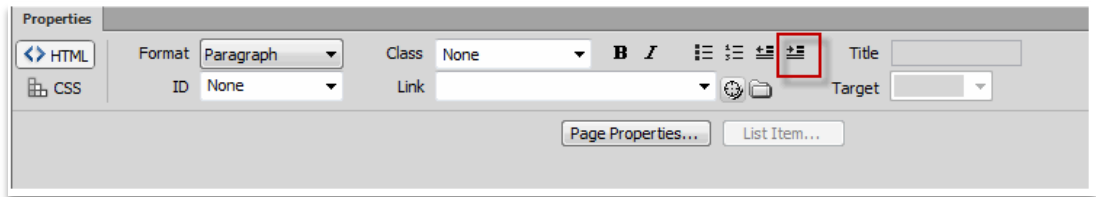
To remove the block quote, click the Remove Block quote icon () to the left of the Block quote icon.

To illustrate let us add a block quote to ClassFiles/Dreamweaver/Exercises/hello-world.html:

1. Open ClassFiles/Dreamweaver/Exercises/hello-world.html in Dreamweaver if it is not already open.
2. At the end of the first paragraph under the heading, type "According to Wikipedia:"
3. Press Enter to add a new paragraph.
4. Open ClassFiles/Dreamweaver/Exercises/hello-world-blockquote.txt and copy all the text.
5. Switch back to hello-world.html and paste the text into the new paragraph you added.

6. In the `Properties Inspector` click on the `Block quote` icon (   ).
7. Save your page.
8. Preview the page in your browser (`File > Preview in Browser`). It should appear as follows:
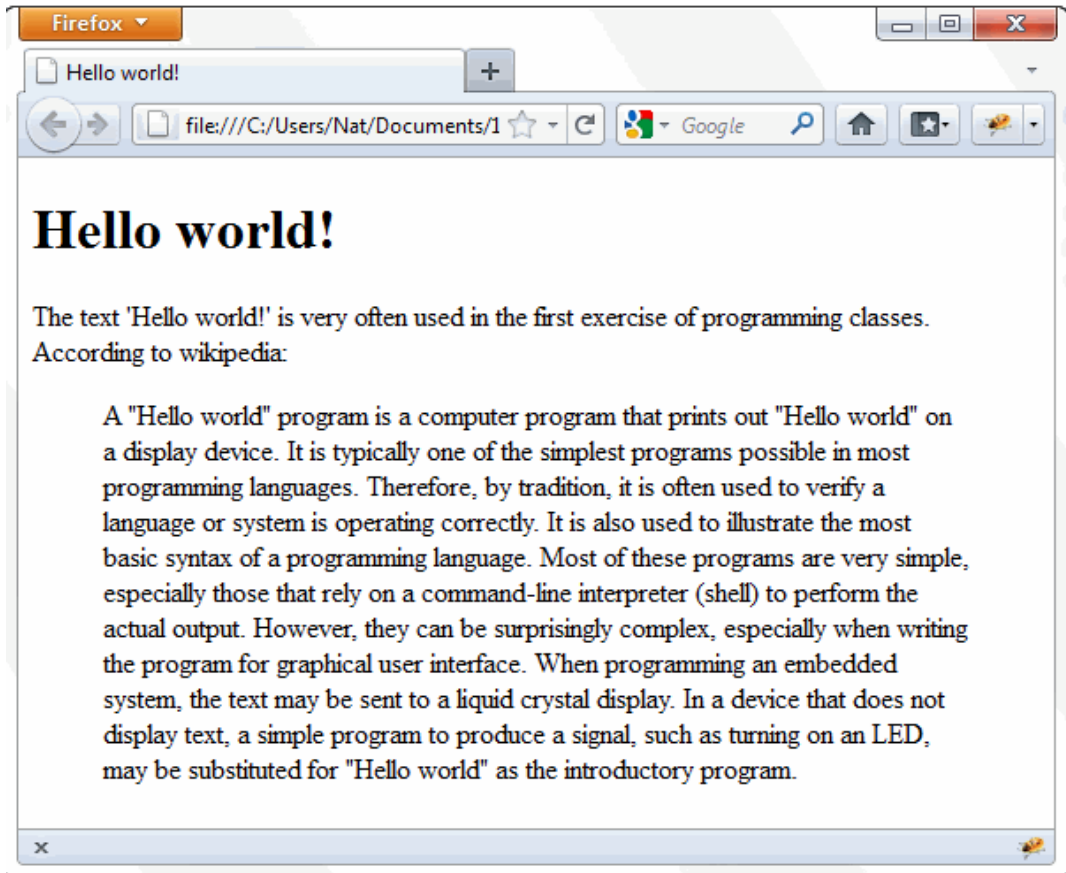
Block quotes should only be used to indicate that the content is taken from another source. The proper way to indent paragraphs for formatting purposes is to use CSS.

3.8 Adding Links

Dreamweaver makes adding links easy. Simply highlight the text that you want to turn into a link and enter the link URL into the `Link` field in the `Properties Inspector`.

Activity: adding links to a text

To illustrate let us add a link to ClassFiles/Dreamweaver/Exercises/hello-world.html:

1. Open ClassFiles/Dreamweaver/Exercises/hello-world.html in Dreamweaver if it is not already open.
2. Highlight the text "Wikipedia".
3. In the `Link` field in the `Properties Inspector`, enter "http://en.wikipedia.org/wiki/Hello_world_program":

4. Save your page.
5. Preview the page in your browser (File > Preview in Browser). The page should look like this:
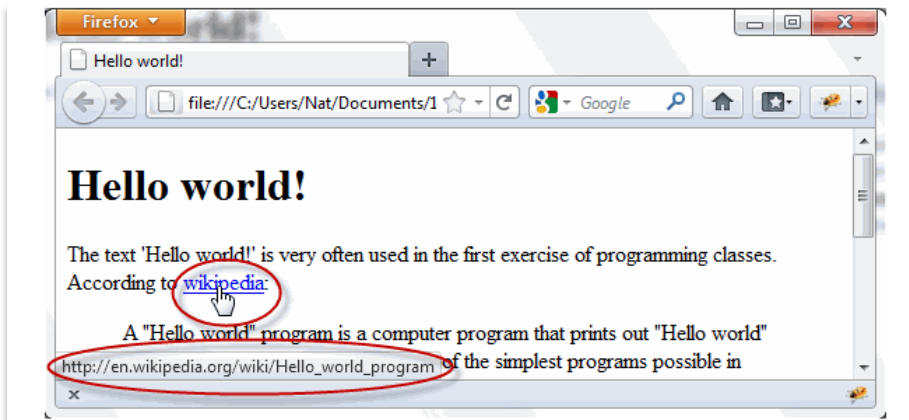
6. Notice that when you hover over the link, the cursor turns to a pointer and Firefox shows the URL to which the link points.
7. Click the "Wikipedia" link. It should take you to Wikipedia's page entitled "Hello world program."

3.8.1 Targeting New Windows

Sometimes it is desirable for a link to open in a new tab or window, so that the page with the link does not get replaced. Dreamweaver provides a `Target` field in the `Properties Inspector` for this purpose. This `Target` field remains

inactive until the `Link` field is filled in, at which point it gives you the options shown in the screen shot below:
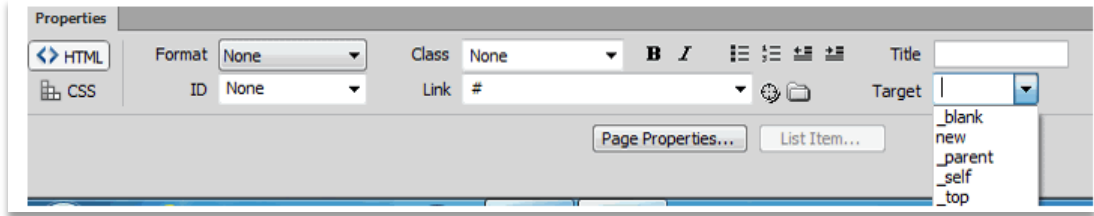
The _parent, _self, and _top values apply to framesets and should not be used (unless you are designing with framesets, which you probably should not be).

The _blank and new values will both direct the linked page to open in a new window. The difference is that all links that target _blank will spawn new windows, whereas a link targeting new will open a new window and name it "new". As long as that window remains open, all future links targeting new will open in that same window. In fact, new is an arbitrary target name. You will get the same behavior with any target name other than the four reserved names: _blank, _parent, _self, and _top.

Be careful not to overuse targeting new windows. A best practice in web design is to give users what they expect and users generally expect links to replace the current page. They also know that they can get back to the original page using the browser's Back button. However, when creating a link that opens in a new window, the user will not be able to use the Back button in that new window to get back to your page. Reserve the open a new window for links that take the user away from your site, so any links to other sites work well in a new window as your site will still be available when they close that window.

3.8.2 Email Links

Email links are used to open an email client to start a new email message. The value you enter in the `Link` field must begin with mailto: and ends with an email address. For example: mailto:paul@gmail.com

You can also add an email link by selecting `Insert > Email Link`, and then filling out the resulting dialog:
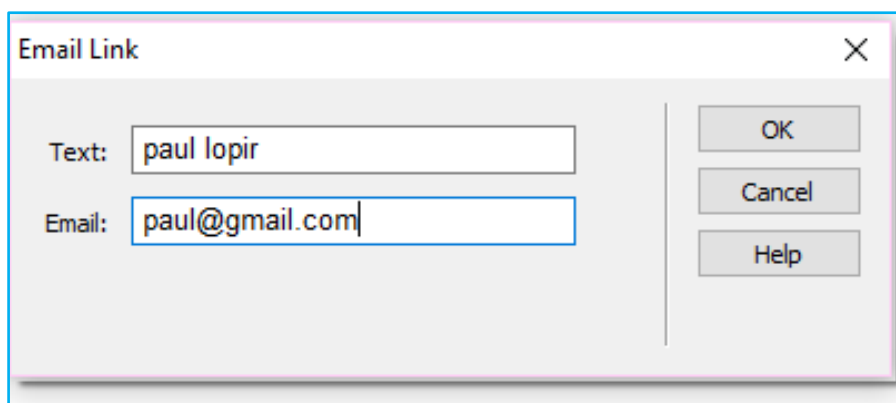
If you select the text you want to turn into an email link before selecting Insert > Email Link then that text will show up in the Email Link dialog. Otherwise, you must type in the text in the dialog box and Dreamweaver will add it to the page at the point where the cursor is.

Activity 3.4: Adding links to your web page

1. Create the following new pages and save them in ClassFiles/Dreamweaver/Exercises. Add titles and level-one headings to each page:
   - Races as Races.html
   - Calculator as Calculator.html
   - Running Log as RunningLog.html
   - My Account as MyAccount.html
   - Log out as Logout.html
2. Open ClassFiles/Dreamweaver/Exercises/index.html in Dreamweaver if it is not already open.

Add the following links:

- Home: index.html
- Races: Races.html
- Resources: Resources.html
- Calculator: Calculator.html
- Running Log: RunningLog.html
- My Account: MyAccount.html
- Log out: Logout.html
- the most up-to-date information on running races: Races.html
- the best resources for runners: Resources.html

3. Save your page and open it in the browser.
4. Test your links. Do they work?

3.8.3 Anchors

Anchors are named locations to which a link can point. Anchors make it possible to link to a specific location on a page.

Follow these steps to add an anchor in Dreamweaver CS6 using the pre HTML5 way:

1. Place the cursor where you want to add the anchor.
2. Select `Named Anchor` from the `Insert` menu or the `Common Insert` panel.
3. In the resulting dialog, enter a name for your anchor (no spaces allowed):

To illustrate let us add an anchor to the top of ClassFiles/Dreamweaver/Exercises/Anchors.html so that we can add a "Back to Top" link at the bottom of the page:

1. Open ClassFiles/Dreamweaver/Exercises/Anchors.html in Dreamweaver.
2. With the cursor at the very beginning of the page (before the "Anchors" heading), select Insert > Named Anchor:
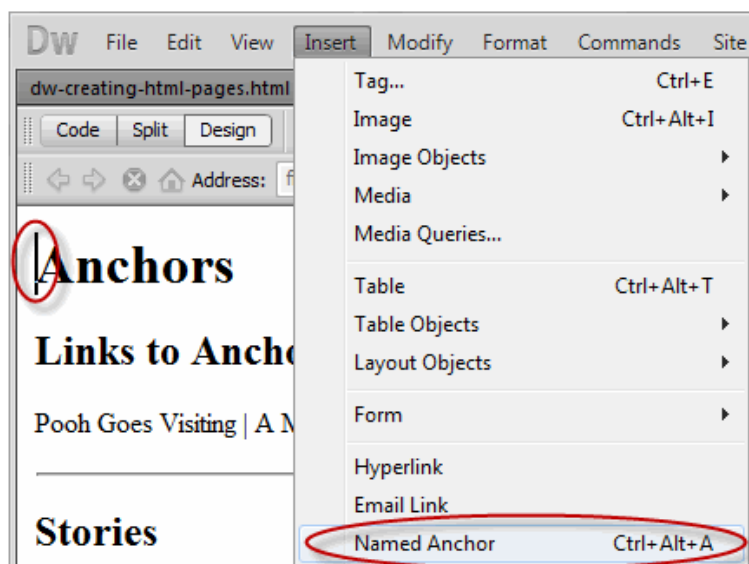
3. In the Named Anchor dialog, enter "Top":

4. You should now see an anchor icon ( ) in front of the "Anchors" heading. If you do not, you may need to change your preferences by selecting `Edit >`

`Preferences` and then selecting the "Invisible Elements" category and checking `Named anchors`
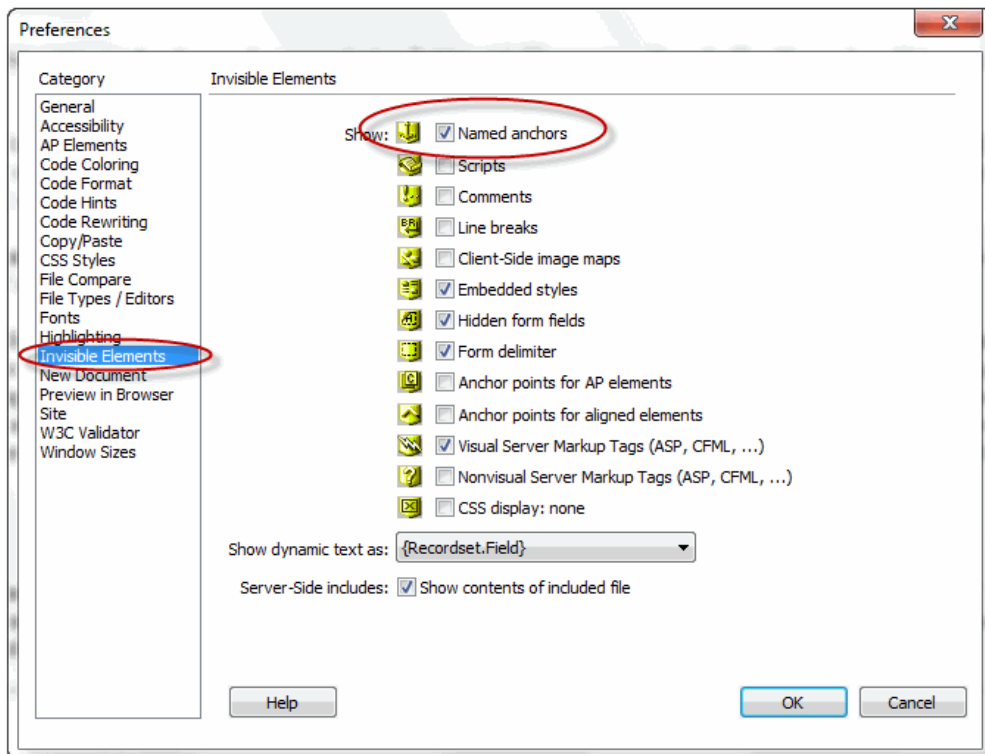
Figure 9.8 invisible elements selection

You are now ready to create a link to your new anchor. To do so:

1. Scroll down to the bottom of your Anchors.html page and highlight "Back to top."
2. In the Properties Inspector, enter "#top" in the Link field. The pound sign or hash mark (#) at the beginning of the link value is important. It tells the browser to search for an anchor on the page.
3. Save your page and open it in the browser.
4. Scroll to the bottom of the page and test the link. Does it bring you back to the top?

To link to anchors on remote sites, simply include the whole URL followed by a pound sign and the anchor. For example: http://www.example com/index.html#anchorname. Or in the case of a default page: http://www.example com/#anchor name.

Add content to your web page.

1. Create a new HTML page and save it as index.html in your Exercises folder.
2. Add content so that your web page will look like this in the browser:

> Home | Races | Resources | Calculator | Running Log | My Account | Log out
>
> Hello, Stranger!
>
> # Welcome to Runners Home
>
> Runners Home is dedicated to providing you with:
>
> - the most up-to-date information on running races.
>
> - the best resources for runners.
>
> 2011 Runners Home. All rights reserved.

3. Save your page and open it in the browser. Does it look like the screen shot above?

3.9 Adding Links in Dreamweaver

3.9.1 Point to File

1. Highlight the text that will become a link.
2. Click down on the `Point to File` icon in the `Properties Inspector`.
3. Drag the mouse over to the `Files` panel and point to the file.
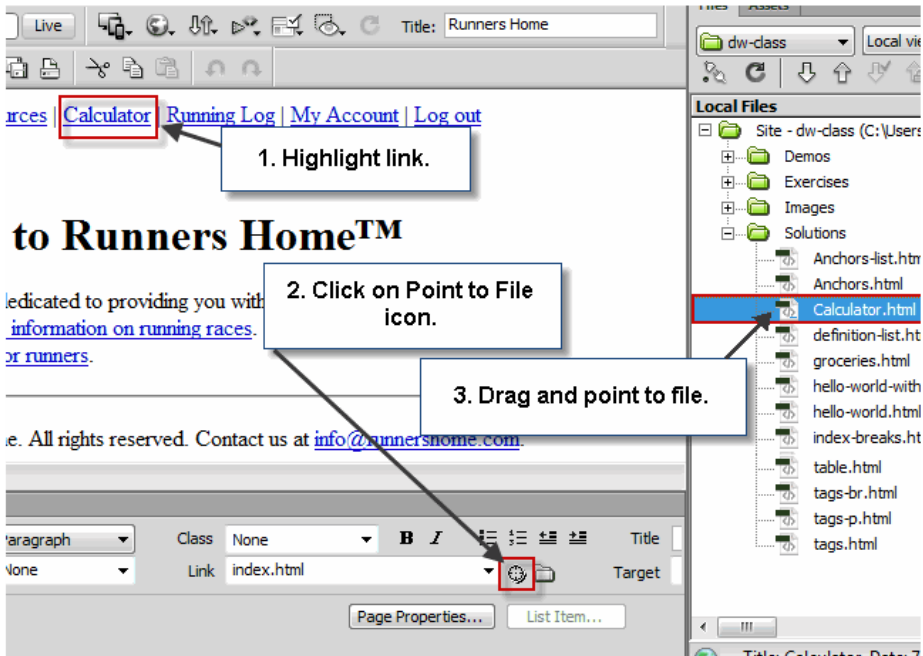
3.9.2 Browse for File

1. Highlight the text that will become a link.
2. Click on the folder icon (if you hover over the folder icon, it will show Browse for files) in the Properties Inspector:
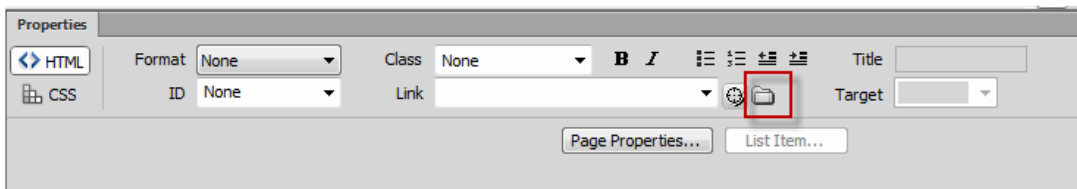
3. In the `Select File` dialog that appears, click on the `Site Root` button to quickly navigate to your website root:
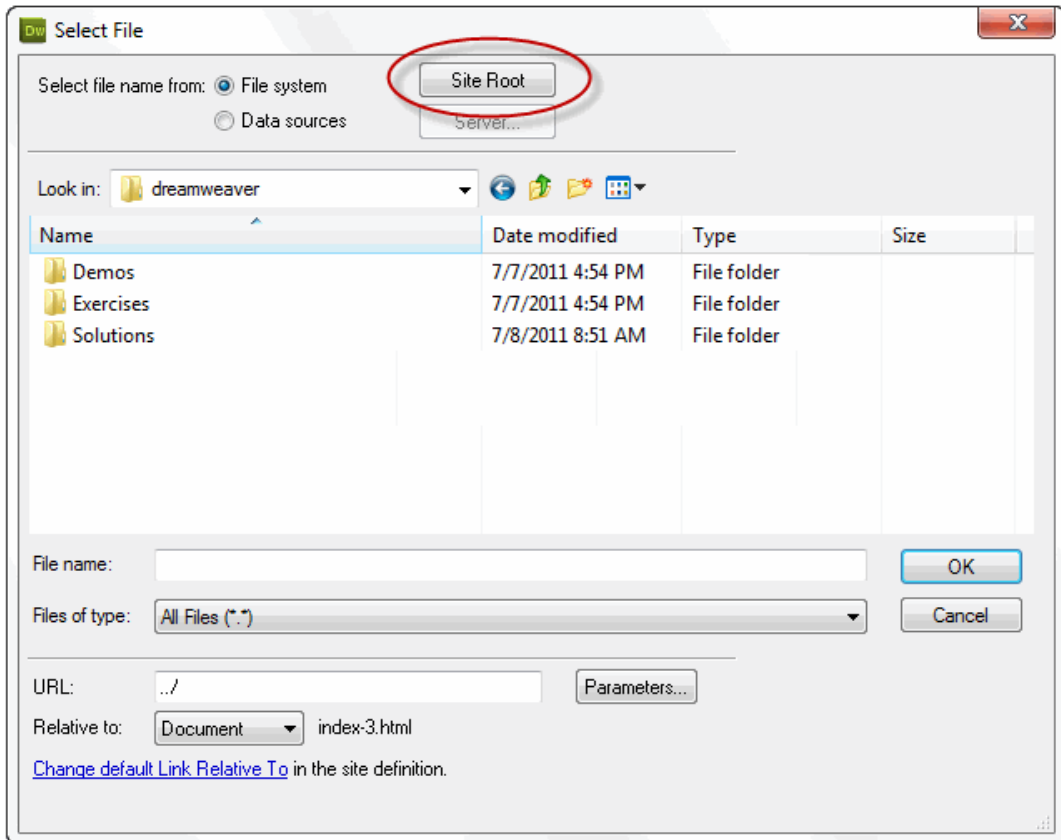
Alternatively, you can type the URL into the URL field.

4. Navigate to the file and click OK.

3.9.3 Drag File from Files Panel

1. Highlight the text that will become a link.
2. In the `Files` panel click down on the file to which you want to link.
3. Click down on the `Point to File` icon in the `Properties Inspector`.
4. Drag the mouse over to the `Properties Inspector` and point to the `Link` field. *Although the "no-drop" cursor might show up, Dreamweaver allows you to drop the file path into the field.*

3.10 Inserting Images

To add an image place the cursor where you want the image to appear and do one of the following:
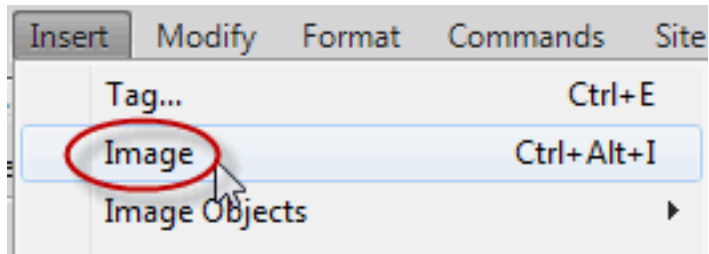
- Select `Insert > Image`:
- Select `Images > Image` from the `Common Insert` panel:
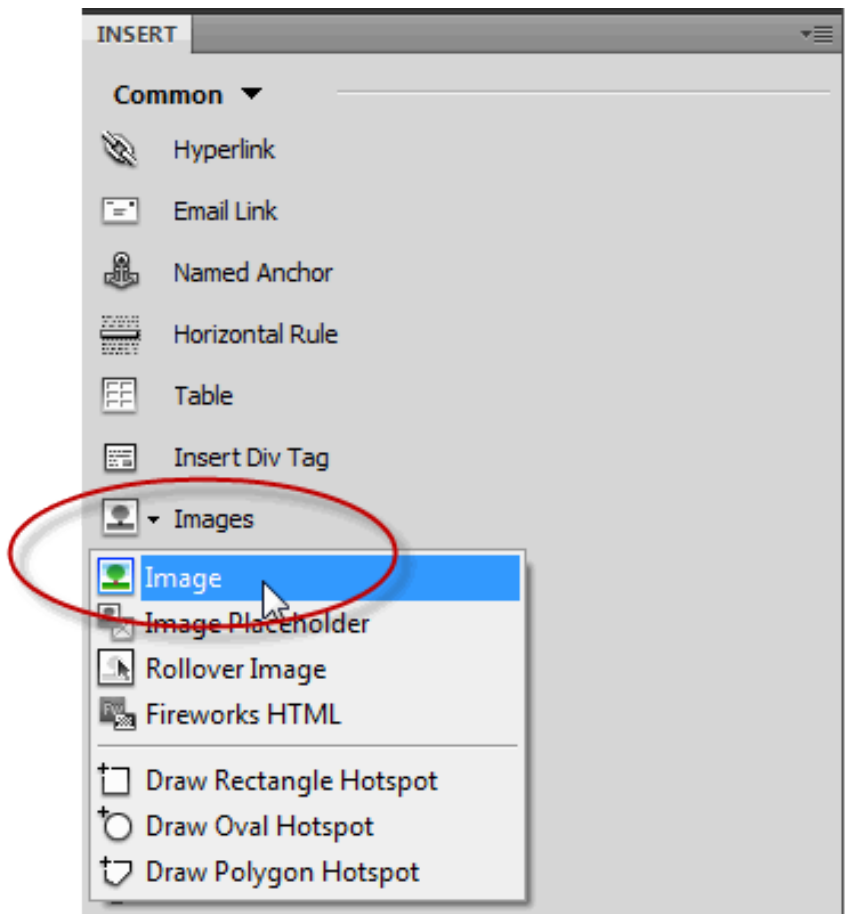
You will then be presented with the `Select Image Source` dialog, which allows you to navigate to your image:
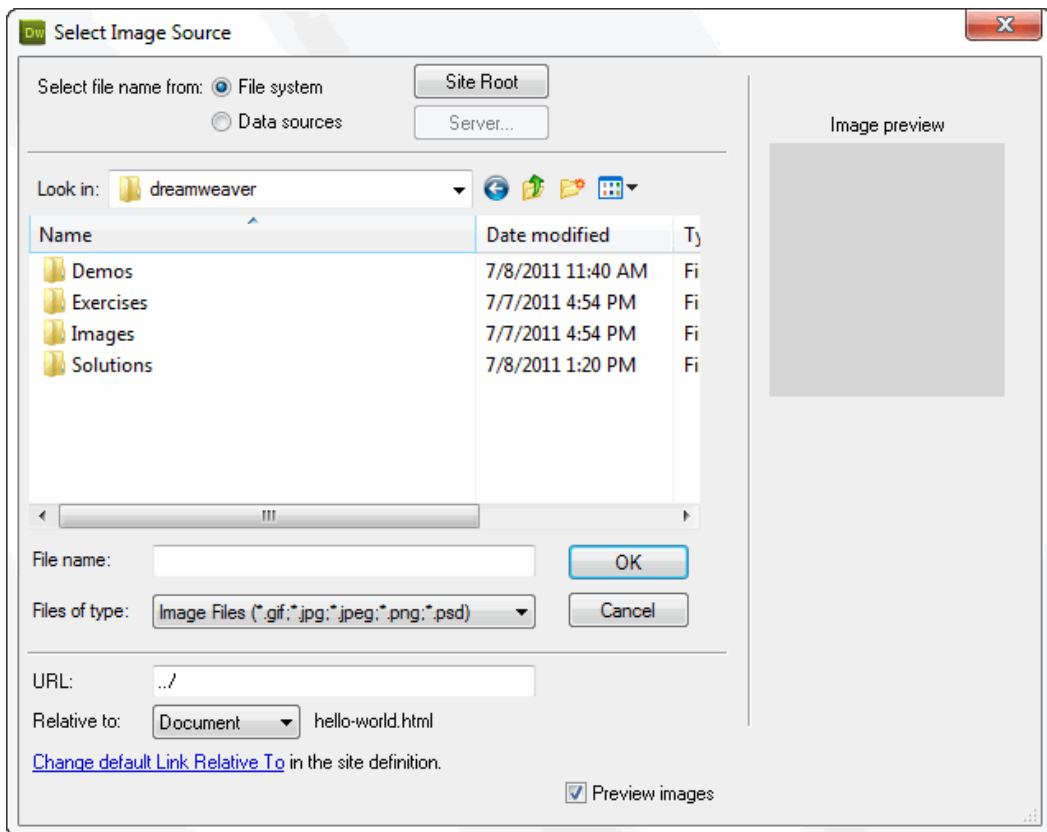
As with links, this dialog gives you the option of jumping right to your website root by clicking on the `Site Root` button.

Rather than browsing to the image in the `Select Image Source` dialog, you can drag it from the `Files` panel to the location on your page where you want the image to appear.

3.10.1 Accessibility Attributes

After selecting the image, the Image Tag Accessibility Attributes dialog will appear:
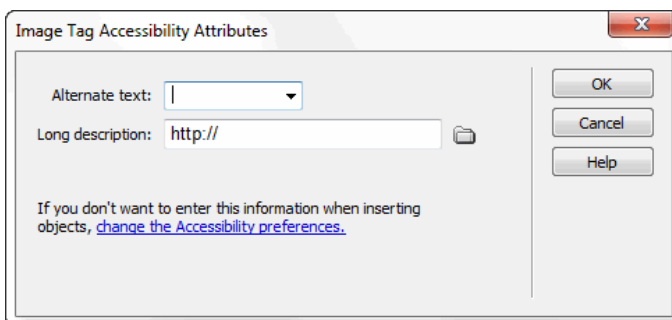
Figure 9.9 Accessibility attributes dialog

3.10.2 Alternate Text

Screen readers will use the `Alternate text` value when announcing the presence of the image. You should either write descriptive text or select "<empty>" from the dropdown. Here are some guidelines:

1. If the only purpose of the image is to provide a design impact, you should select "<empty>".
2. If the image contains instructive text (e.g., "Enter Store" or "Go"), you should write that text as the value.

3.10.3 Long Description

The long description is used with images that tell a story (e.g., graphs and charts). The value for the `Long description`, if included, should be a URL pointing to a page that provides text telling the same story as the image.

Watch as your instructor adds the world.gif image from the Images folder to ClassFiles/Dreamweaver/Solutions/hello-world.html and makes it a link to the Hello World Wikipedia page.

3.10.4 Image Properties

You can use the `Properties Inspector` to modify the properties of the image:
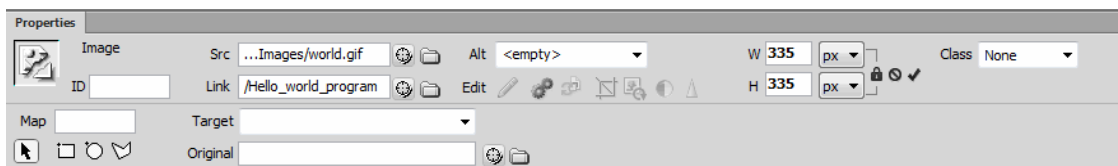
Figure 10 image properties selection

1. You can change the source, link URL, and alternate text using the `Src`, `Link` and `Alt` fields.
2. `W` and `H` stand for width and height.
3. When you insert an image, Dreamweaver automatically sets the width and height to the actual dimensions of the image (in pixels). In most cases, you should not change this setting. If one of the values is different from the actual dimension, the value becomes bold and a `Reset` icon appears:
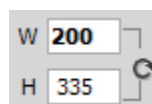
4. Click that icon to reset the image dimensions.

3.10.5 Image Links

1. Select the image.
2. Add the link in the same way you would with text selected.

Some browsers will place a blue border around a linked image to indicate that the image is a link.

3.10.5 Adding a Table to Your Page

To add a table to your page, place the cursor where you want the table to appear and do one of the following:
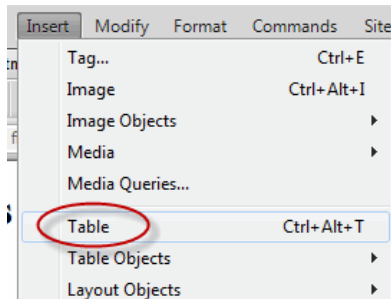
 Select `Insert > Table`:

Select `Table` from the `Common  Insert` panel:
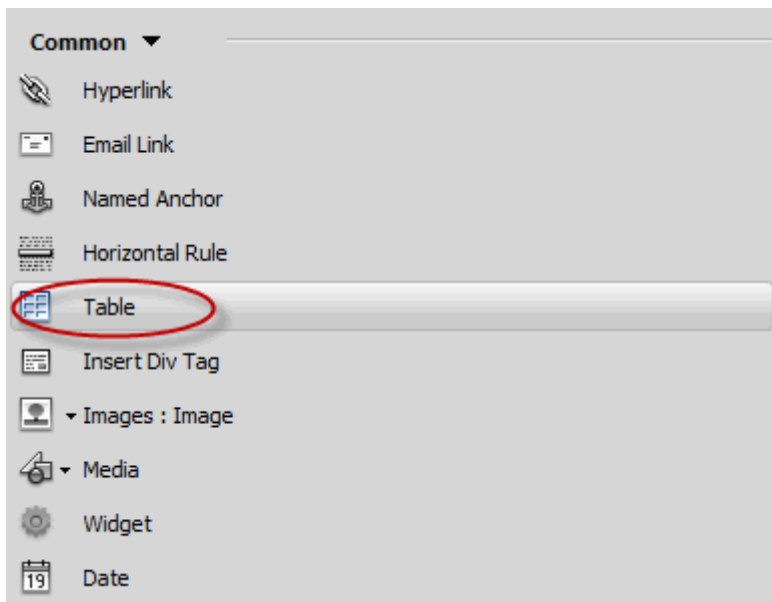
You will then be presented with the Table dialog:
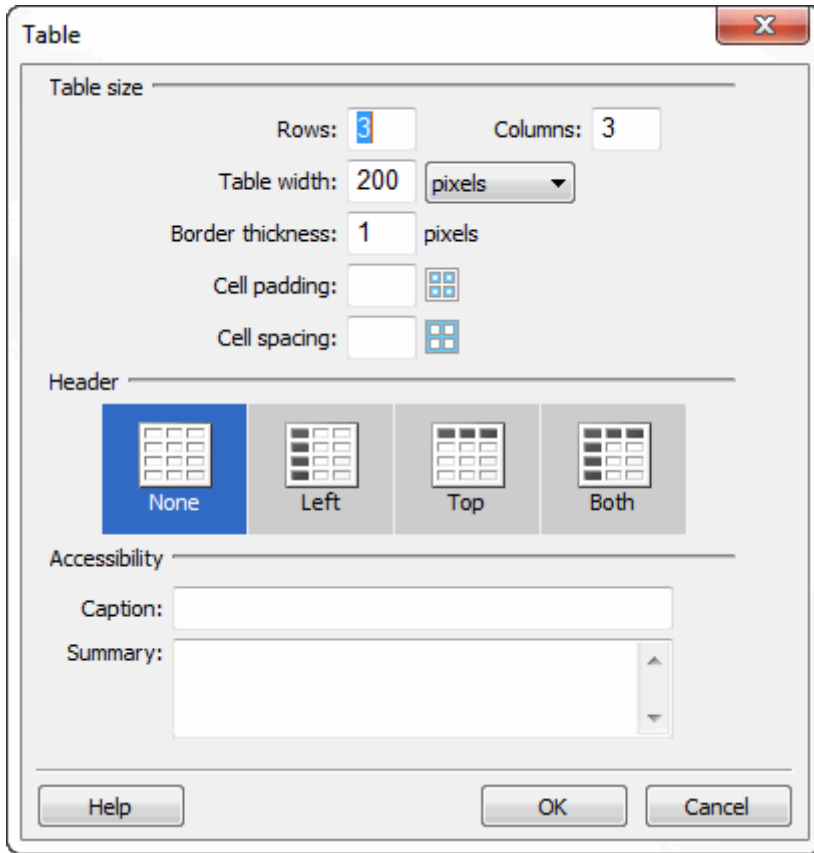
In the `Table` dialog, you enter:

- `Rows` and `Columns`. The number of rows and columns you want for your initial table. Rows and columns can be added to and removed from the table later.
- `Table width`: The width of the table in pixels or percent. Percent applies to the containing area. For example, if you nest a table with a width set at 50% within a table cell of another table, the nested table will take up 50% of the cell.
- `Border thickness`: The border width in pixels. The border will be applied to all cells of the table in a grid format. Enter "0" if you do not want a border.
- `Cell padding`: The amount of space in pixels that will separate the cell content from the cell border.
- `Cell spacing`: The amount of space in pixels that will separate each cell from each other cell.
- `Header`: Whether you want a header row, header column, or both.

- Caption: The caption you want to appear above the table. This is unformatted by default, but can be formatted with CSS.
- Summary: The text used by screen readers to describe the table.

To illustrate, let us add a table to a page:

1. Open ClassFiles/Dreamweaver/Exercises/table.html in Dreamweaver.
2. Place the cursor in the empty paragraph after the "Employees" heading.
3. Select Insert > Table.
4. Fill out the Table dialog as shown below:
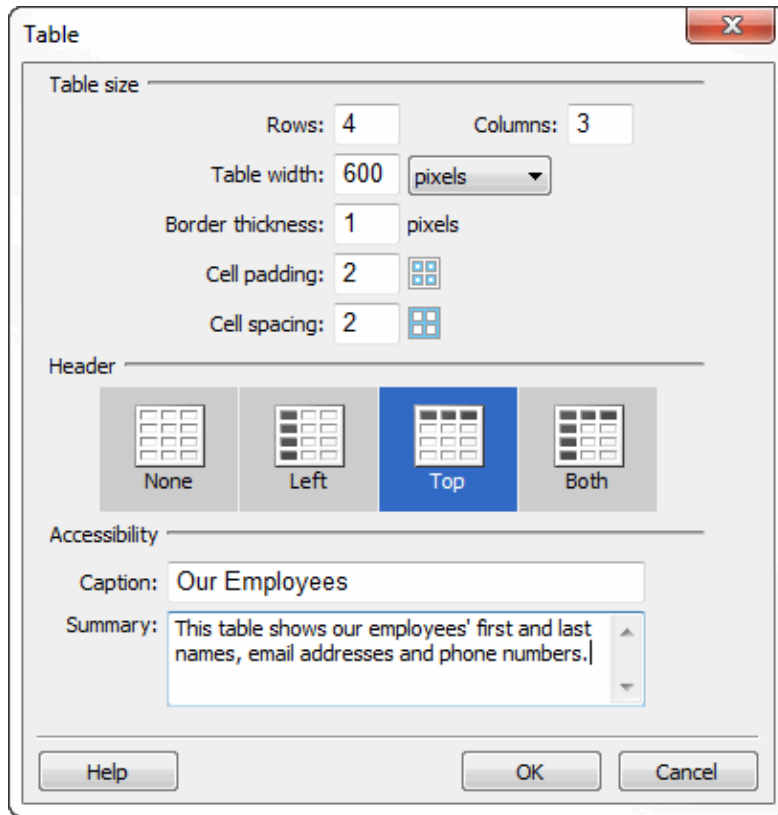
Click OK. Your page should look like this:
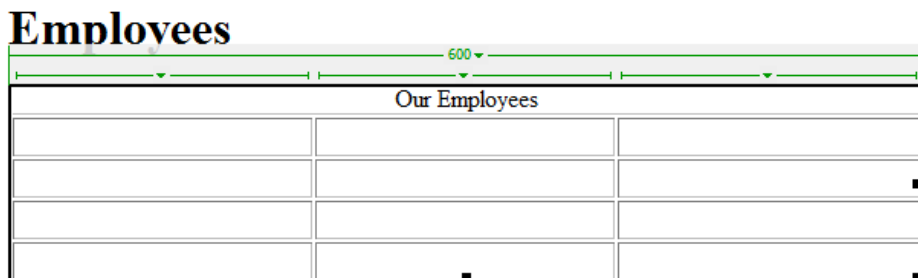
In Design View, when the table is selected, Dreamweaver provides table menus (the green lines, arrows, and text above the table) to help you understand and modify the table. These will not appear on the page when viewed in the browser.

5. Click the `Live` button to see what the page will look like in the browser:

Employees

Our Employees

6. Now fill out the table as shown below. You can use Tab, Shift + Tab, and the arrow keys to navigate between cells.

Name	Email	Phone
Elmo Elmoson	elmo@example.com	555-1111
Tweetie Tweeterson	tweetie@example.com	555-1112
Daffy Dafferty	daffy@example.com	555-1112

7. Save the page and leave it open.

Notice that the data in the first row is bold and centered. That is not because it is a heading row. You can change any cell to or from a heading row in the Properties Inspector by checking or unchecking the `Header` field:
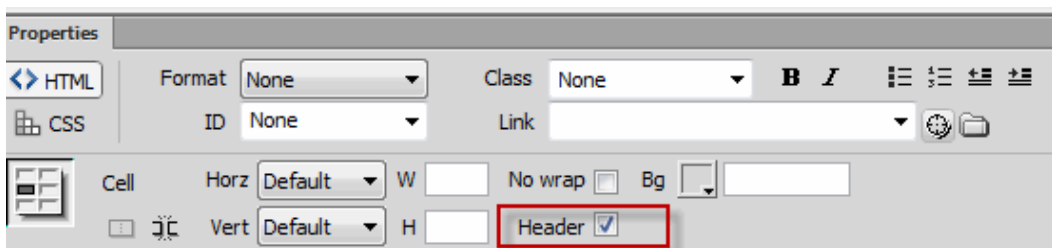
3.11 Add Downloadable Documents

Certain common documents, such as Microsoft Word (.doc), Excel (.xls) and PowerPoint (.ppt), as well as Acrobat (.pdf), can be added to your site as

downloadable files. The user must have the appropriate editing or viewing software to make use of such documents.

3.11.1 Step 1: Make the file ready for the Web

1. All files used in Web sites, including downloadable documents, should avoid spaces and special characters in the file name
2. If working with your own document, examine the file on your computer's desktop
   - Re-name the file to remove any spaces or special characters
   - You can use dashes (-) or underscores (_) instead of spaces
   - The file must have the correct extension, e.g. ".doc" for Word documents or ".pdf" for Acrobat documents

3.11.2 Step 2: Place document within local site files

1. Still on your computer's desktop, find and open your site's local folder
2. Look for a folder at the site's root named "files" or "documents" or perhaps "secure"; if you do not find one of these, create a new folder named "documents"
3. Move your sample document into this folder

3.11.3 Step 3: Upload file and link to it

1. Switch to Dreamweaver; you may want to right/ctrl-click on the list of files and select "Refresh Local Files" to update the list.
2. Find an open the "documents" folder by double-clicking on it.
3. Select the document within and click the Put button in the files panel
4. Open the page you want to link from, e.g. my project/index.html or root/my_page.html.
5. Create a new link to the file the same way you would if linking to a page, i.e. using the Browse button or the Point to File button. Because the user must have appropriate software, it is customary to warn them in the link text that the link is to a downloadable file, e.g. "Application Form (PDF)" .
6. Save, Put and switch to the browser to reload and validate by clicking the link.

In groups

Develop a website for Rumbek secondary school. Include name, logo, and levels of classes, subject and teacher names and pictures. Include picture gallery of activities such as sports, cultural event and field visits. Include a pdf document for school performance in the national exam.

Group Discussion

Which group has the best design and why? What are the main recommendations for creating a good website?

3.12 Setting up Dreamweaver for FTP and Site Management

When you point your browser to a website (e.g., www.google.com), the browser fetches a page from a web server somewhere on the internet. That web server is simply a computer with some special software on it for serving web pages and associated files (e.g., images). The server can deliver pages to many different clients (browsers) at the same time as shown below:
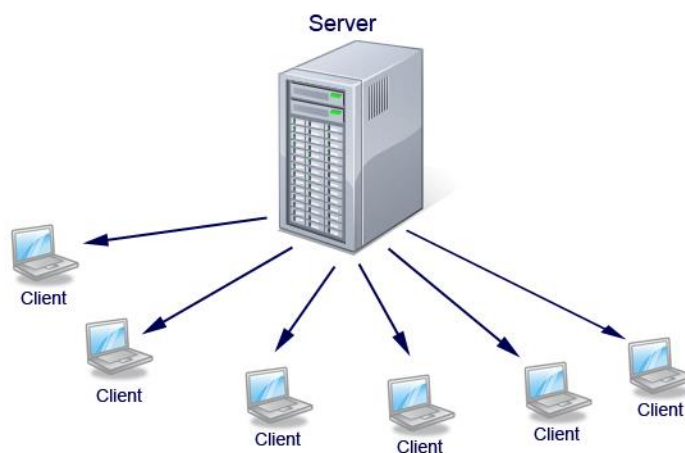
Figure 11 a server image

As a web developer, you may be responsible for putting your pages onto the web server. Different organizations handle this in different ways, but one common way is via File Transfer Protocol (FTP).

The file transfer function available in Dreamweaver does more than simply move files to and from a server.

The function actually serves as a file management system where the user is able to upload and download files, synchronize files on the server and local computer, and much more.

1. Click Site on the Menu bar. A drop down list will appear as illustrated on the right.
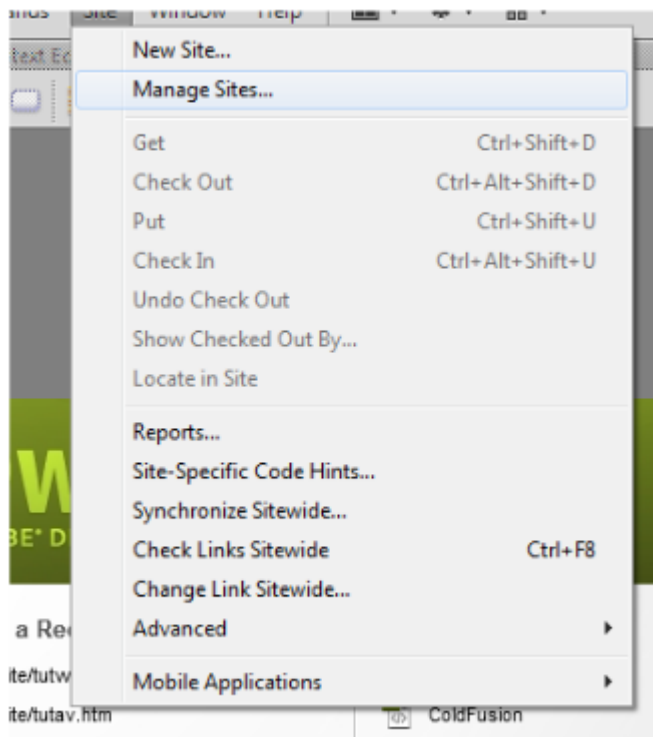
Select New Site. The Set Up panel will appear. It will resemble the illustration below.
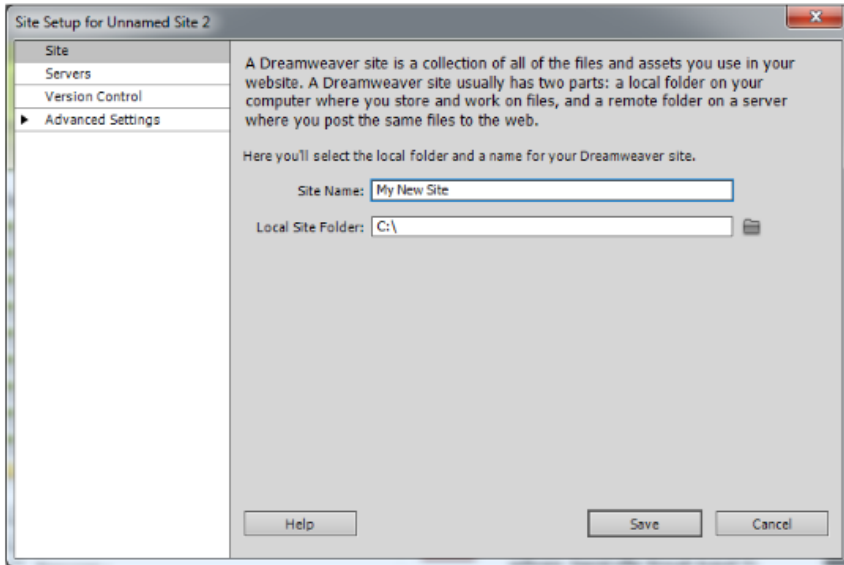
Enter the name of your Web site in the Site Name space. This is the name by which you will recognize your site. It can be any name you wish, but if you work on several sites you will want to be sure that it is a name that cannot be confused with another site.

You must enter the Local Site Folder information. This is the site's root folder on your computer. You can click the Folder button to navigation to the root folder location.

Find the root folder then click Save. You will return to the Site Setup panel. It will now resemble the illustration below.
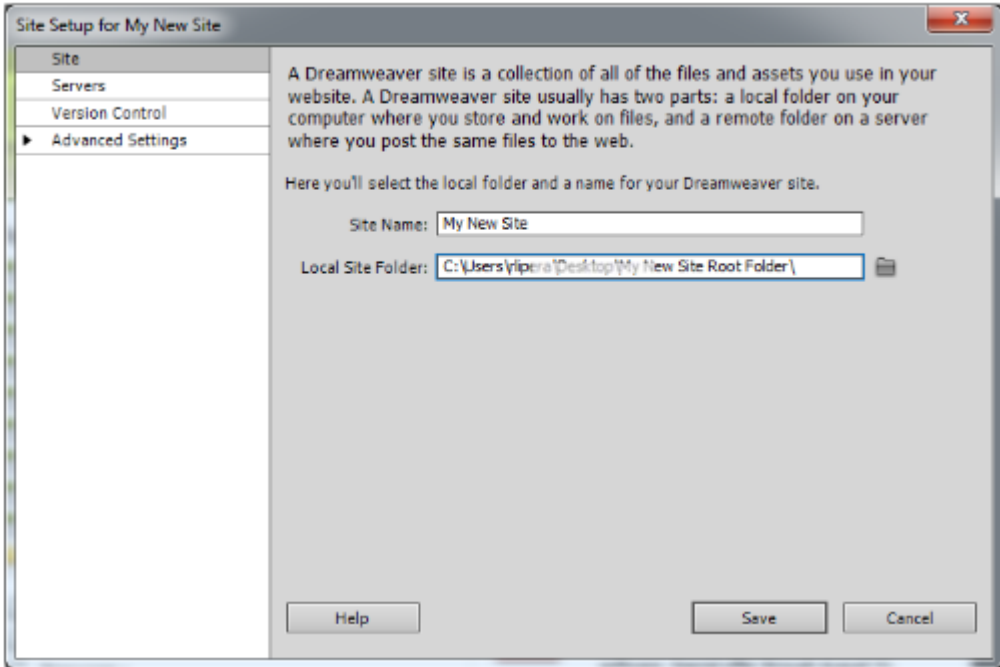
Click Servers in the left column of the Set Up panel. The panel will change to look like the illustration below.
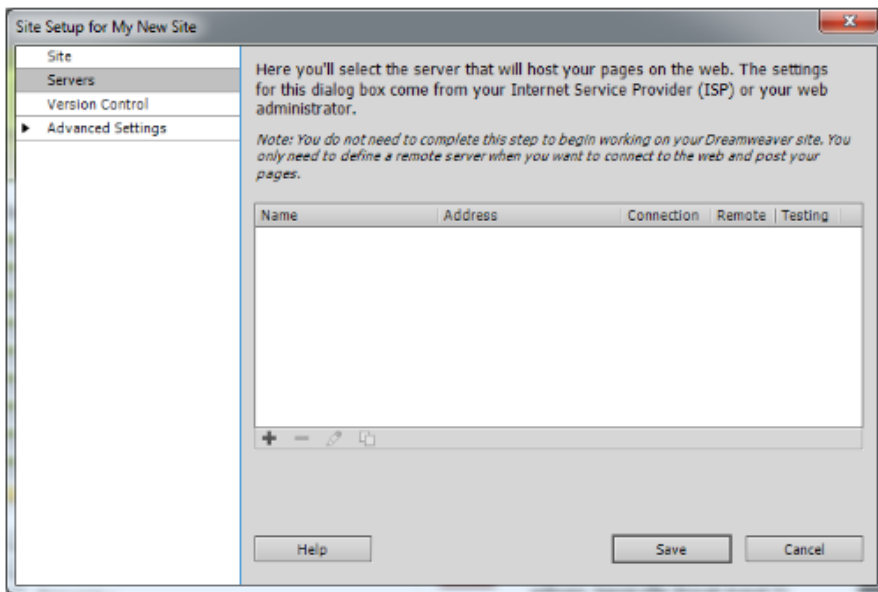
This is where you will specify the server that hosts your Web site. Your Web master or the company that provides your hosting service will supply the information that you need.

It will include a username, path to the server, password, and, perhaps, other details.

If you do not have that information on hand, you can still work on your site. The details about the root folder location and name that you set up in the previous panel are enough for Dreamweaver to start to track your project. However, until you complete the FTP setup you will not be able to transfer the files to the hosting server.

Click the Add New Server + button. The Server Information panel appears as shown below. Click the Basic tab at the top of the panel.

Enter the Server Name. In some instances a server may have a special name. This is not always the case. Your Web master or host provider will tell you what this special name might be, if it is needed. Otherwise the server name can be just about anything you wish.

You may find it easiest if the server name matches the Web site name.

Make sure that FTP is selected in the Connect Using drop down box.

Your Web master or host provider will advise you if a special version of FTP is required, such as SFTP for secure file transfer. Local/Network is used if you connect without using FTP over a network.

Using this illustration below as a guide, enter the following information:
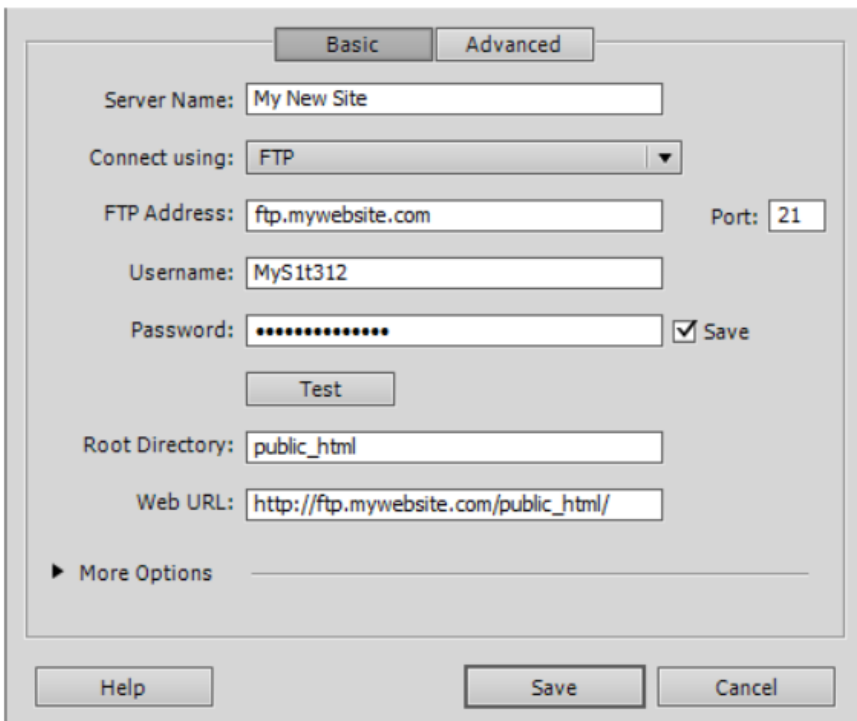
FTP Address: This is the "place" on the Internet where your Web site resides. This address specifies not only the location, but also the method by which you get there. In simple terms, this example indicates that you get to "mywebsite.com" via FTP (File Transfer Protocol). In some instances the FTP address will actually start with "www" as in www.mywebsite.com. Your Web master or host company will tell you which to use. It is also possible that you may not be given a typical URL for connection purposes. In that case your Web master or host company might provide an IP address, which is a string of numbers such as 128.123.45.86. Sometimes host companies require specialized access pathways that incorporate their domain names. In such a case your FTP address could be something similar to www.amazinghostcompany.com/x429/mywebsite/.

Username: Type in the username that your Web master or host company gives you.

Password: Type in your password.

Root Directory: If your Web master or host company specifies a special directory (also called a "folder"), enter it here. The most common name for such a directory is public_html. This is common industry practice. Any file in this directory is "officially" part of the Web site. If it is not in this directory it is not a Web site file.

Not all host servers require specifying a root directory, so be sure to check with your Web master or hosting provider. It is very important to make sure you files go to the right place!

Click the Test button. If Dreamweaver connects to the server properly you will get a success message. If there is a problem you will receive a message that indicates possible solutions.

The More Options selector will expand the panel to show additional FTP choices. They will include using Passive FTP, IPV6, and more. If you receive an error message when you test, trying some of these options may help.
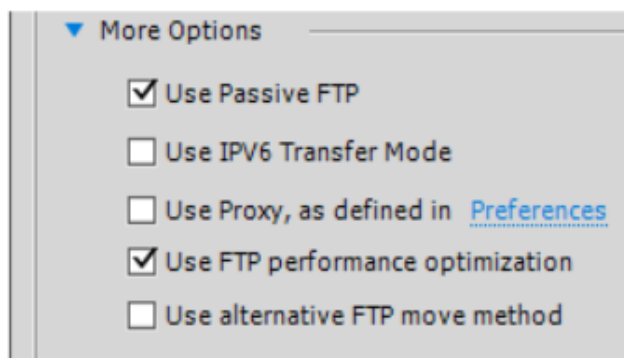
If you continue to receive error messages, check your FTP Address, Username, and Password choices. These are the most common sources of connection problems. If the connection errors continue, contact your Web master of Host Company for assistance.

Once connection is successful, click the Save button once or twice until the Site Setup Panel disappears. You are now ready to transfer files.

On your main Dreamweaver screen you will find the Files panel in the lower right corner. It is circled in the illustration below. If it is not displayed, click Windows on the Menu bar and then click the Files option.
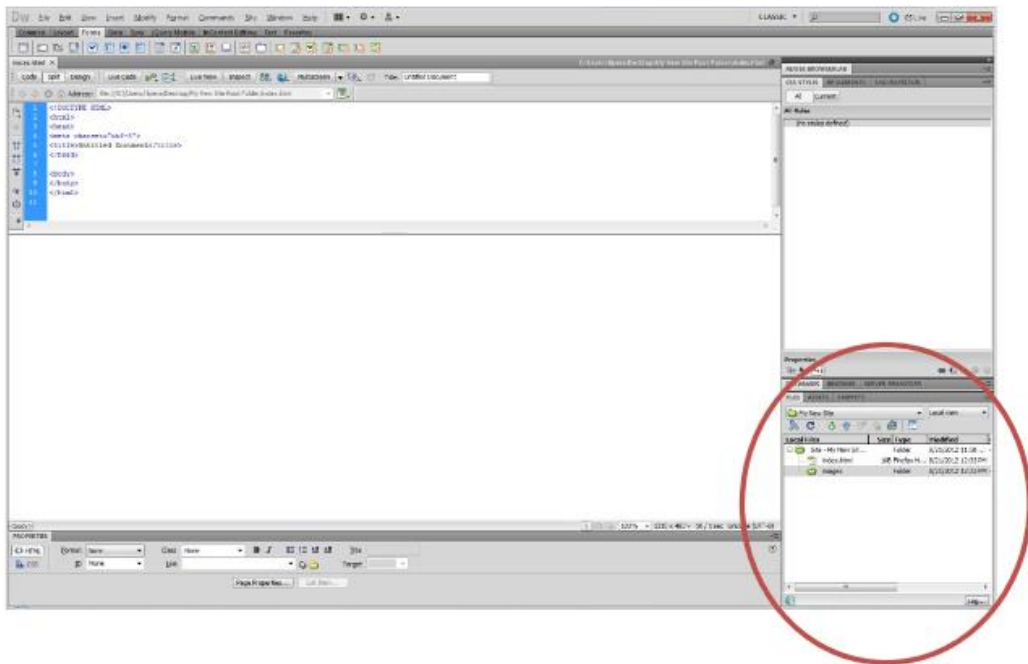
The Files panel has a series of buttons across the top.
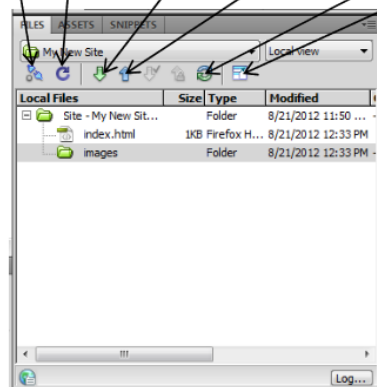
Connection: The Connection button activates the FTP connection between your computer and the host server. It does not necessarily start a file transfer, it only makes the connection.

Refresh: The Refresh button updates the list of files to reflect changes you have made.

Get: The Get button is the download button. It "gets" the files from the server and brings them to your computer.

Put: The Put button is the upload button. It "puts" the files from your computer onto the host server.

Sync: The Sync button starts a process of synchronizing the files between the host server and your computer. Be very careful using this button. It has several options, once you have clicked it, and it is important to choose the right option. This sync feature makes managing a Web site easier than many people expect.

Expand: The Expand button opens a new window that has two panes. The right side pane will show all of your Web site files on your computer, the left side pane will show all of the Web site files on the host server.

3.12.1 Uploading and Downloading Files

Once you have set up your connection to your host server, uploading and downloading (or "Put" and "Get" as Dreamweaver likes to say) is very easy.

The illustration on the right shows the Files panel. The same steps can be used in expanded view, but what you see on the screen will be a little different.

Highlighted file for uploading
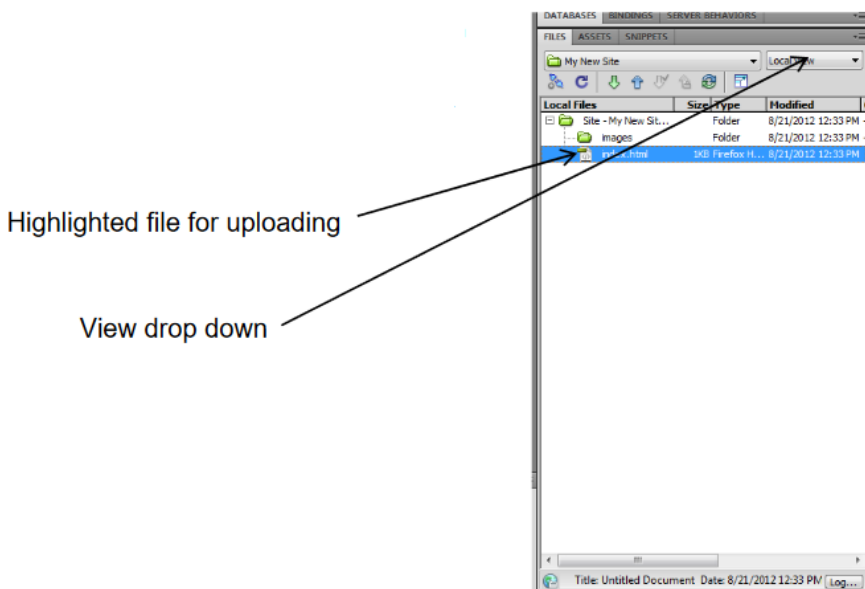
View drop down

Make sure that the Local View is selected in the View drop down selector on the top right corner. This shows the files that are on your computer.
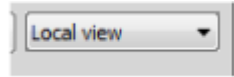
Highlight the file you wish to upload. You may highlight more than one file. You can also select entire folders.

Click the Put button.

The Dependent Files panel will appear. It is illustrated below:
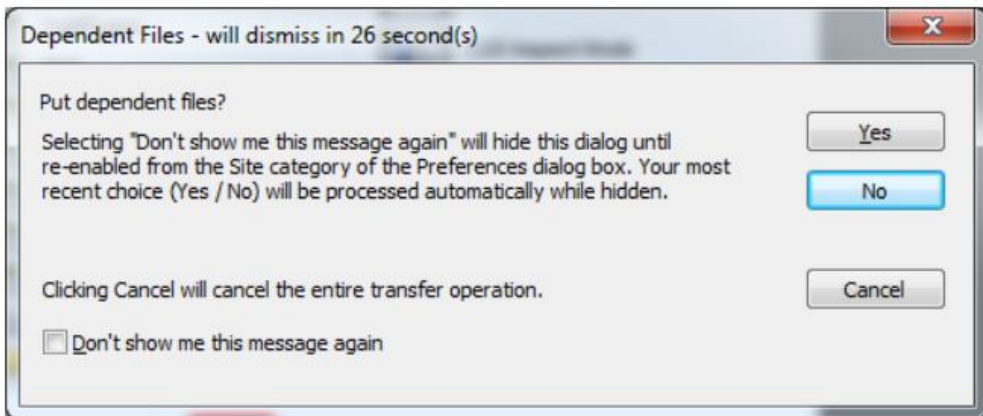
The question in the panel is asking if you want to upload the dependent files associated with main file, or file, that you have elected to upload. But what are dependent files?

To understand the concept of dependent files it easiest to image a Web page that you wish to upload. That page will consist of the HTML file of the page itself, and associated files that give the page its look and feel. These include image files.

If you click Yes in the Dependent Files panel the HTML file and the images will be uploaded. It is possible that additional files may also be uploaded. Clicking Yes does not guarantee that CSS, video, sound, or other files will be uploaded as they are probably considered "linked" but not dependent.

If you click No only the file, or files, that you have selected will be uploaded.

Clicking Cancel will stop the download action.

Your decision to click Yes or No can be based on many considerations. Among them are:

- Clicking yes will almost for sure upload all the files necessary to display your Web page.
- Clicking yes will probably lengthen the time it takes to accomplish the upload because of the number of files.
- Clicking No will result in a quicker upload
- Clicking No means you could miss important files

Once you click Yes or No the upload (or Put) process will start. If everything goes perfectly a panel will appear that displays the progress of the Put operation. You can monitor the Put progress from this panel.

If there are problems or questions that Dreamweaver encounters other panels may be displayed. One of the most common is the panel shown below:
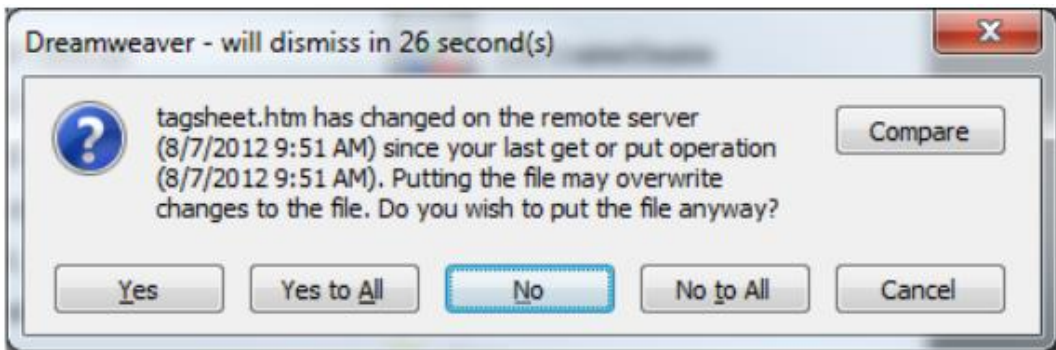
This panel indicates that Dreamweaver has discovered that the file on the server is believed to be newer than the file you are putting. If you click yes, the file you selected for upload will overwrite the file on the server. If you click yes to all, this action will occur whenever this conflict is detected.

Clicking No will prevent the Put file from overwriting the file on the server, and clicking No to all does the same for all conflicts.

The problem that is often encountered is that the new file selected for upload is not really older than the file on the server. The conflict can be a reflection incorrect dating of the files on the hosting server. If you are confident that you are REALLY NOT uploading an old file it is perfectly OK to click yes or yes to all.

Downloading, or getting, a file is just as easy as Putting a file. But, you have one important decision to make regarding the selection of the file.

If you have the Local View in the Files panel selected, you can simply highlight that file and click the Get button.

If you are not sure about which file you need to Get, change the view to Remote Server. All the files on the host server will be displayed. Highlight the file and then click the Get button.

In either instance, when you Get a file you will be asked about overwriting your local file, the one on your computer, and whether or not you want to download the dependent files. Make your selections as appropriate to the situation.

The Synchronize function in Dreamweaver is very powerful and a good example of how Dreamweaver goes beyond having a simple FTP feature and becomes a total site management tool.

When you click the Sync button Dreamweaver will ask a series of questions.

Make your selection of the options carefully as they will affect what happens next. The Synchronize Files panel is shown below.
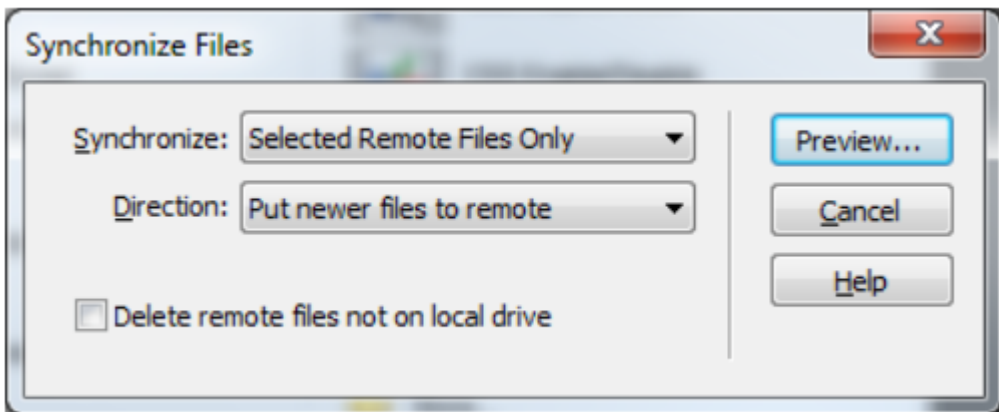
You will be given the options to:

- Synchronize the entire Web site or only the files you select.
- Put (upload) the newest files to the host server; Get (download) the newest files to your computer; or Put and Get the newest files to and from the server and your computer.

Click the Preview button. Dreamweaver will analyze the files on your computer and the server and list the ones that need to be uploaded or downloaded. You will be given the option to take action as desired.

Once you have synced the server and your local files on your computer you have duplicate file structures on each machine. This means that site management, maintenance, updating, and editing are easy.

Activity 3.7: Security in Website Management

In pairs

What are the security issues to be considered when settings up a website? Are they important?

Discuss

List and explain security issues to be considered in website management and their importance. Discuss your answers with your partner. What are they key points?

Prepare a presentation for your answer with examples and present to the class.

Review questions

1. What three questions should you ask before starting any web design project?
2. What is the purpose of using thumbnails and wireframes?
3. What is the advantage of inserting the banner as a background image?
4. How can you insert the cursor before or after an element without using Code view?
5. How does the Code Navigator assist in designing your website layout?
6. Which element or idea would you use to improve website usability?
7. Based on best practices, which three site elements should remain consistent throughout when designing a website?
8. Which three items might appear on the project plan when discussing an upcoming website with a design team?

Unit 1: Database

1. **ACID -** The acronym standing for the properties maintained by standard database management systems, standing for Atomicity, Consistency, Isolation, and Durability.

2. **Application Server -** A server that processes application-specific database operations made from application client programs. The DBMS is in-process with the application code for very fast internal access.

3. **Atomicity -** The property of a transaction that guarantees that either all or none of the changes made by the transaction are written to the database.

4. **B-tree -** An indexing method in which the values of the columns used in the index are efficiently maintained in sorted order that also provides fast access (three or four additional disk accesses) to an individual index entry.

5. **Cache -** The computer memory that is set aside to contain a portion of the database data that has most recently been accessed by the database application program. A cache is used to minimize the amount of physical disk I/O performed by the DBMS.

6. **Cascade -** A foreign key attribute that automatically migrates the changes made to a referenced (i.e., primary key) table to the entire referencing foreign key) table rows.

7. **Catalog -** A source for the computer-readable form of a database's data definition meta-data. Sometimes called the system catalog or just syscat.

8. **Client -** A client-side process, containing proxy functions, connecting to a server process that contains the actual database functions.

9. **Client/Server -** A server is a program that runs on a computer that directly manages the database. A client is a separate program (or process) that communicates with the database server through some kind of Remote Procedure Call (RPC) in order to perform application-specific database operations.

10. **Cloud -** used to describe an execution model for computing systems where functions and data are invoked by a name that refers to a remote system whose location is irrelevant (hence the concept of it being "out there somewhere." like a cloud). Cloud-based systems allow thin-client interfaces to access this functionality through the internet, and frequently with Wi-Fi, reducing the power requirements of the client computers.

11. **Column -** A single unit of named data that has a particular data type (e.g., number, text, or date). Columns only exist in tables.

12. **Commit -** The action that causes all of the changes made by a particular transaction to be reliably written to the database files and made visible to other users.

13. **Concurrency -** The property in which two or more computing processes are executing at the same time.

14. **DLL -** Dynamic Link Library. A library of related functions that are not loaded into memory until they are called by the application program. All RDM APIs are contained in DLLs on those operating systems that support them (e.g., MS-Windows). These are sometimes called shared libraries on some systems.

15. **DML -** Database Manipulation Language. In SQL, such statements as UPDATE, INSERT and DELETE are considered DML.

16. **Documentation -** All product-related materials, specifications, technical manuals, user manuals, flow diagrams, file descriptions, or other written information either included with products or otherwise.

17. **Domain -** An alternate name for a base data type that is defined using the RDM SQL create domain statement.

18. **Durability -** The property of a transaction in which the DBMS guarantees that all committed transactions will survive any kind of system failure.

19. **Dynamic DDL -** The ability to change the definition of a database (its schema) after data has been stored in the database without having to take the database off-line or restructure its files.

20. **Encryption -** The encoding of data so that it cannot be understood by a human reader. This usually requires the use of an encryption key. A common encryption algorithm is called AES, which uses encryption keys of 128, 192 or 256 bits.

21. **End-User -** An entity that licenses an Application for its own use from Licensee or its Additional Reseller.

22. **Enterprise resource planning (ERP):** is the integrated management of core business processes, often in real-time and mediated by software and technology. ERP is usually referred to as a category of business-management software. Typically a suite of integrated applications—that an organization can use to collect, store, manage and interpret data from these many business activities.

23. **Foreign Key -** One or more columns in a table intended to contain only values that match the related primary/unique key column(s) in the referenced table. Foreign and primary keys explicitly define the direct relationships between tables. Referential Integrity is maintained when every foreign key refers to one and only one existing primary key.

24. **Grouped Lock Request -** A single operation that requests locks on more than one table or rows at a time. Either all or none of the requested locks will be granted. Issuing a grouped lock request at the beginning of a transaction that includes all of the tables/rows that can potentially be accessed by the transaction guarantees that a deadlock will not occur.

25. **Hierarchical Model -** A special case of a network model database in which each record type can participate only as the member of one set.

26. **Hot Spot -** In a database, a hot spot is a single shared row of a table that is used and updated so often that it creates a performance bottleneck on the system.

27. **I/O -** Input/output. For a DBMS, this is normally a disk drive, used to create database durability.

28. **Index -** A separate structure that allows fast access to a table's rows based on the data values of the columns used in the index. RDM supports two indexing types: hash and b-tree. A SQL key (not foreign key) is implemented using an index.

29. **In-memory -** A feature in which the DBMS keeps the entire contents of a database or table available in computer memory at all times while the database is opened. Frequently, in-memory databases are volatile, meaning that they have little or no durability if the computer malfunctions. Durability issues are frequently prioritized below performance, which increases substantially with memory as the storage media.

30. **In-process -** When referring to a DBMS, it is in-process when the DBMS code resides in the process space of the application program that is using it. If the process is single threaded, then this is a single-user usage of the database(s). A process may have multiple threads with individual connections to a shared database, making it a multi-user database. In-process uses Local Procedure Calls (LPC) vs Remote Procedure Calls (RPC) to a database server in a separate process.

31. **Inner Join -** A join between two tables where only the rows with matching foreign and primary key values are returned.

32. **IP Address -** A numerical identification tag assigned to a computing device in a network. Originally, internet IP addresses consisted of 32 bits of data, displayed as a set of four 3-digit numbers separated by periods (e.g., 113.12.214.2). The number of available IP addresses is running out and a new standard, called IPv6, with 128 bits, will expand the address space for the foreseeable future.

33. **ISO -** International Organization for Standardization. Along with the IEC, the ISO controls the SQL standard (ISO/IEC 9075) and many others as well.

34. **Java** - A multi-platform, object-oriented programming language, similar to C++, which is freely available to any and all software developers. It is particularly important in the development of internet/web and mobile applications.

35. **JDBC -** Java Database Connectivity API. JDBC provides a standard database access and manipulations API for Java programs. RDM supports JDBC.

36. **Join -** An operation in which the rows of one table are related to the rows of another through common column values.

37. **Key -** A column or columns on which an index is constructed to allow rapid and/or sorted access to a table's row.

38. **LAN -** A Local Area Network is used to interconnect the computers in a single geographic location. Contrasted to Wide Area Networks (WAN). Bandwidth (speed) is a primary difference between local and wide-area networking.

39. **Library -** The container for a set of common software API functions. Frequently, a library is contained in a DLL or Shared Library.

40. **Locking -** A method for safely protecting objects from being changed by two or more users (processes/threads) at the same time. A write (exclusive) lock allows access from only one user (process/thread) at a time. A read (shared) lock allows read-only access from multiple users (processes/threads).

41. **Meta-data -** "Data about data." In a DBMS context, data stored in columns of a table have certain attributes, such as the type, length, description or other characteristics that allow the DBMS to process the data meaningfully, or allow the users to understand it better.

42. **Natural Join -** A join formed between two tables where the values of identically named and defined columns are equal.

43. **Network Model -** A database in which inter-record type relationships are organized using one-to-many sets. This differs from a Hierarchical Model in that it allows a record type to be a member of more than one set. Individual rows can be retrieved using API functions that allow an application to navigate through individual set instances.

44. **Network -** An inter-connection of computers and computing devices, all of which can send and receive messages from one another. The world's largest network is the internet, in which billions of computers are connected.

45. **NoSQL -** A classification of data storage systems that are not primarily designed to be relationally accessed through the common SQL language. NoSQL systems are characterized by dynamic creation and deletion of key/value pairs, and are structured to be highly scalable to multiple computers.

46. **Open Source Software (OSS) -** Software that is released under a Software License that (1) permits each recipient of the software to copy and modify the software; (2) permits each recipient to distribute the software in modified or unmodified form; and (3) does not require recipients to pay a fee or royalty for the permission to copy, modify, or distribute the software.

47. **Outer Join -** A join formed between two tables that in addition to including the rows from the two tables with matching join column values will also include the values from one table that do not have matching rows in the other.

48. **Page Size -** The size in bytes of a database page.

49. **Page -** The basic unit of database file input/output. Database files may be organized into a set of fixed-sized pages containing data associated with one or more record occurrences (table rows).

50. **PLC -** Programmable Logic Controller.

51. **Port -** A network portal through which two computing processes can communicate. Where one IP Address typically identifies a device, a Port on that device identifies one of multiple potential communication channels.

52. **Portable -** Software that has been developed to be able to run on many different computer hardware and operating systems with little or no change.

53. **Primary Key -** A column or group of columns in a given table that uniquely identify each row of the table. The primary key is used in conjunction with a foreign key in another (or even the same) table to relate the two tables together. For example, the primary key in an author table would match the foreign key in a book table in order to relate a particular author to that author's books.

54. **Process -** An instance of the execution of a program on a single computer. A process can consist of one or more threads executing, more or less, concurrently. The private memory used by a process cannot be accessed by any other process.

55. **Protocol -** A specific method in which messages are formulated, formatted, and passed between computers in a network. Internet messages are passed between computers using the TCP/IP protocol.

56. **Query -** A complete SELECT statement that specifies 1) the columns and tables from which data is to be retrieved; 2) optionally, conditions that the data must satisfy; 3) optionally, computations that are to be performed on the retrieved column values; and 4) optionally, a desired ordering of the result set.

57. **Read-only Transaction -** A Multi-Version Concurrency Control (MVCC) feature that allows database data to be read by one process without

blocking another process's modification of that same data. Frequently referred to as a "snapshot."

58. **Record Type -** A collection of closely related data fields—equivalent to an SQL table. Similar to a C struct, a record type is defined by a set of closely related data fields.

59. **Relational Model -** A database in which inter-table relationships are organized primarily through common data columns, which define a one-to-many relationship between a row of the primary key table and one or more rows of the matching foreign key table. Equi-joins relate tables that have matching primary/foreign key values, but other comparisons (relationships) may be defined. In addition to describing how the database tables are related, the relational model also defines how the related data can be accessed and manipulated. SQL is the most commonly used relational model database language. See Wikipedia

60. **Remote Procedure Call -** A method of inter-process communication where a function residing within another process is called as though it is a local (in-process) function. The method is implemented through a local proxy function and a remote stub function. Parameter values are marshaled into a block of data that can be transmitted from the proxy to the stub for remarshaling and calling the actual function. Return values are processed in the same way as input values.

61. **Restriction Factor -** Each relational expression specified in the WHERE clause of a query has an associated restriction factor that is estimated by the SQL optimizer, which specifies the fraction (or percentage) of the table for which the expression will be true. For example, in the query select * from book where bookid = 'austen013px' the relational expression bookid = 'austen013px' has a restriction factor equal to .003 (only one out of 3213px rows will satisfy this expression).

62. **Rollback -** An operation, usually performed by the SQL ROLLBACK statement, that discards all of the changes made by all INSERT, UPDATE and DELETE statements that have been executed since the most recently started transaction (e.g., START TRANSACTION statement).

63. **Row -** One set of related values for all of the columns declared in a given table. Also known as a record occurrence.

64. **Runtime -** A portion of a DBMS that is included within the process space of an application program.

65. **Scalability -** A software system is scalable when its performance and overall system throughput continues to improve as more computing resources are made available for its use. This usually comes in the form of the number of

CPUs and cores available in the computer on which the software system is run.

66. **Scalar Function -** Either a built-in SQL function or a user-defined function that returns a single value computed only from the values of any required arguments at the time the function is called.

67. **Schema -** A representation of the structure of a database. It may be graphical or textual. Graphical representations typically involve the use of boxes that represent database tables and arrows that represent inter-table relationships. Textual schema representations utilize Database Definition Language (DDL) statements to describe a database design.

68. **Semaphore -** A primitive computing operation that is used to synchronize shared access to data. Sometimes called a "mutex" meaning a "mutually exclusive section." Semaphores control concurrent access to data by restricting access to critical sections of code that manipulate that data.

69. **Server (Software) -** A Seat that resides on a single Server machine and is capable of accepting connections from one or more Seats residing on Client machines.

70. **Set -** A method used to implement the one-to-many relationship formed between two tables based on their foreign and primary key declarations. The term "set" comes from the CODASYL Network Model definition. A set may be employed in a relational database when an owner (primary key) table and a member (foreign key) table where all of the member table rows that are related to the same owner table row are connected together with a linked list. See Wikipedia

71. **SQL -** The standardized and commonly accepted language used for defining, querying and manipulating a relational database. The etymology of "SQL" is unclear, possibly a progression from "QueL" (Query Language) to "SeQueL" to "SQL." However, some experts do not like the expansion "Structured Query Language" because its structure is inconsistent and a historical patchwork. See Wikipedia

72. **Stored Procedure -** A named and optionally parameterized compiled set of SQL database access statements that can be executed as a unit through a call to the stored procedure.

73. **Synchronization -** The implementation method (frequently using semaphores) by which concurrently executing multiple computer threads or processes can safely access and update shared data.

74. **Table -** A collection of closely related columns. A table consists of rows each of which shares the same columns but vary in the column values.

75. **Thread -** A single, sequential execution of a computer program or program segment. A program can consist of one or more concurrently executing

threads. Where multiple threads access the same data, some kind of synchronization method needs to be employed to ensure that the data is accessed only by one thread at a time.

76. **Timeout -** Occurs when a lock request has waited longer than the prescribed wait time for the request to be granted.

77. **Transaction Log -** A sequential record of all of the database changes made by each transaction in the order they were issued. The transaction log is used to ensure that a database conforms to the ACID properties. Transaction logs are also used to mirror or replicate data to other databases.

78. **Transaction -** A set of logically related database modifications that is written to the database as a unit. The database changes associated with a given transaction are guaranteed by the DBMS to be written completely to the database; in the event of a system failure, none are written. The state of the database both before and after a transaction will be consistent with its design.

79. **Update (of Product) -** A Product that has been modified in a minor way, including but not limited to bug fixes, and has been furnished to Licensee under this Agreement. An Update is represented by a Product version number that increments to the right of the decimal point.

80. **User-defined Procedure -** An application-specific function written in C and invocable through use of the SQL call statement.

81. **Virtual Table -** An SQL table that is defined through a set of application-specific C functions that conform to a particular interface specification, allowing a non-database data source (e.g., a device, etc.) to be accessed as if it were a conventional SQL table.

82. **WAN** - A Wide Area Network, as contrasted to Local Area Networks (LAN), Normally WAN refers to the internet. Bandwidth (speed) is a primary difference between local and wide-area networking.

83. **Wi-Fi -** The common name for standardized local-area wireless technology.

84. **XML -** Extensible Markup Language. XML documents are much used in the internet's World Wide Web but are also used in many computing contexts in which data needs to be shared.

Unit 2: Advanced Formatting Techniques

1. **Action Buttons -** these are buttons that you create in a presentation that perform an action when you click them. You can have an action button start a video, give information, play a sound, or move to a hyperlink.

2. **Animation Effects -** Animation effects are builds, movement, and other special effects that can be applied to objects and text to add interest and variety to a presentation.

3. **Animations -** Animations are effects that allow you to reveal the points on a slide one by one.

4. **Attribute -** a characteristic of a text or graphic object that can be altered, such as bold, italic, shadowed etc.

5. **Audience Handouts -** Audience handouts are small, printed versions of your slides that can contain an area for notes. They are usually printed and distributed to the audience.

6. **AutoContent Wizard -** The AutoContent Wizard guides you through a number of formatting selections that will help you develop a clear, professional style for your presentation.

7. **AutoCorrect -** a feature that corrects commonly misspelled words automatically as they are typed.

8. **Bookmark -** a method to mark locations within a document so that they can be easily returned to later.

9. **Branching Slides -** Branching slides provides one way to make one presentation to suit different audiences. Branching allows you to have two or more slide shows within a single slide show where you can run each when appropriate.

10. **Common Tasks Toolbar -** The Common Tasks toolbar appears as a floating toolbar on the PowerPoint screen. It consists of options that allow you to quickly access commonly used dialog boxes, and these options change depending on your current process.

11. **Data Source -** a document that is combined with the main document in a mail merge operation

12. **Digital Signature -** a secure electronic stamp of authentication on a document.

13. **Drawing Canvas -** an area that contains drawing shapes and pictures.

14. **Elapsed Time -** The elapsed time for the slides that have been rehearsed is displayed on the left side of the Rehearsal Timer.

15. **Embedded Object -** an object that becomes part of the destination file and is no longer a part of the source file.

16. **Endnotes -** notes or references that appear at the end of the document.

17. **Entry** - an index listing.
18. **Floating Toolbar** - A floating toolbar is any toolbar that appears as a box in the working screen area. Any toolbar can be made into a floating toolbar by simply clicking-and-dragging the toolbar to the working screen area.
19. **Footnotes** - comments or references that appear at the end of each page.
20. **Formatting Toolbar** - The Formatting toolbar is located beneath the Standard toolbar, and contains buttons that provide quick access to commonly used formatting tools and options for the application.
21. **Indent Markers** - markers along the ruler that control how text wraps on the left or right side of a document.
22. **Index** - a list of the topics, names and terms used in a document along with the corresponding page numbers. An index is usually found at or near the end of a document (also see Table of Contents)
23. **Landscape** - a term used to describe page orientation, where the page is wider than it is tall.
24. **Legend** - A legend is a box that contains entries and keys that help identify the data series in a chart.
25. **Linked Object** - an object such as a graphic etc., which is included within a document in such a way that it is linked to the source file, so that whenever the source changes, the object automatically updates.
26. **Macro** - A recorded series of commands, menu selections and key presses that automate repetitive tasks.
27. **Mail Merge** - The process of combining a standard 'form' letter with a set of names and addresses to create many letters that appear to be individually written.
28. **Main Document** - the standard 'form' letter used in a mail merge process.
29. **Manual Page Break** - a page break inserted into a document by the author at a specific position rather than one created automatically when a page has no more room for text.
30. **Merge Field** - a placeholder that indicates where Word inserts information from a data source during a mail merge
31. **Module** - the location within a VBA project where a macro is stored.
32. **Office Clipboard** - a storage area that allows the user to temporarily store snippets of information, and retrieve them later.
33. **Orphan** - the first line of a paragraph printed by itself at the bottom of a page.
34. **Pack And Go** - Pack And Go "wraps up" your presentations and all of its elements, along with the PowerPoint Viewer, into a Pack and Go executable file so you can load and view it on any machine.

35. **Presentation** - A presentation is a collection of slides, handouts, speaker's notes, and an outline, all combined into a file that can be printed onto transparencies or projected from a computer.

36. **Soft Page Break** - a page break that is automatically inserted into a document by Word when a there is too much text to fit on the current page.

37. **Spelling and grammar checker** - a feature that attempts to check and correct errors in spelling and grammar that the writer may have missed.

38. **Style** - a collection of formatting choices that can be applied throughout a document.

39. **Table of Contents** - a list of the main headings and sub headings that indicate to the reader the contents of a document.

40. **Template** - a document that stores formatting, text styles and document information that is then used as the basis for another document.

41. **Theme** - a unified look in a document that incorporates heading and text styles.

42. **Thesaurus** - a feature that looks up alternative words with the similar meanings.

43. **Thumbnail** - A thumbnail is a small view of the current slide. It appears in several different PowerPoint screens, including Outline view.

44. **URL** - abbreviation of Uniform Resource Locator, a unique address for finding documents on a computer or the internet

45. **Watermark** - semi-transparent text or picture that is 'behind' the main text of the document.

46. **Web Layout View** - a view showing how a document will appear when viewed as a web page.

47. **Widow Line** - the last line of a paragraph that appears at the start of a page on its own.

48. **WordArt** - a tool within Microsoft Office that allows you to manipulate text in a variety of different graphical ways.

49. **Word Processing** - the process of creating, editing and printing a computer written text document.

50. **Word Wrap** - the movement of text to the next line when typing goes beyond the right margin.

51. **Workgroup Template** - a template available to other users over a network.

52. **XY (Scatter) Chart** - XY (scatter) charts show the relationship between the numeric values in several series of data.

Unit 3: Website Design

1. **AP div tag** - Creates a container that has a specified, fixed position on a web page.
2. **Anchor -** This is a link that lets the viewer jump to a specific place in a page. Making one involves 2 processes: creating the anchor, and creating the link to the author
3. **Alt Tag -** This is the text that displays before the image loads on the page. Speech synthesizers can read these tags.
4. **Assets panel -** This panel includes the media that you have in your website as we;; as colors, links, library items, and templates. You can drag items from your Assets panel directly onto your web page.
5. **Background color -** The color that fills the entire page. Background image this can extend into padding area but not into the margin area
6. **Border -** This is the edge around tables and images. If you set the border to 0, it will be transparent. You want to do this if you use an image to create a link.
7. **CSS Style Sheet -** Formatting attributes used to format Web pages to provide a consistent presentation for content across the site
8. **Cell -** The intersection of a row and column in a table
9. **Cell padding -** The space between the side of the cell and whatever you place inside the cell.
10. **Cell spacing -** The pixels of blank space between cells.
11. **Code view -** Displays the code generated for the web page
12. **Commands menu -** All options pertain to working with your HTML code
13. **Content -** The information presented to the user in a web page
14. **Contrast -** The range of optical density and tone on a photographic negative or print
15. **Default Color -** The color the browser uses to display links if no other color
16. **Event** - Something a user does or something that happens inside the browser window usually has the prefix "on".
17. **Extensions** - These are special behaviors that you can download and use with the Extension manager to enhance the functionality of Dreamweaver.
18. **External hyperlink -** A hyperlink that displays a web page document from another website
19. **External Style Sheet -** Used for numerous web pages that will make up a web site, requiring pages to have a consistent text file, linked to web pages
20. **File menu -** The options here are opening, saving, and testing your Dreamweaver files

21. **File name -** The name of the file that stores the web page document. You want to keep them short, no capital letters, lowercase and easy to remember.
22. **Files panel -** Area of Dreamweaver workspace that displays files and folders associated with the active website
23. **Float -** The property determines where an element is placed relative to the containing element. It can be used to attach a div to a specific side of the containing element
24. **FTP Protocol -** Allows users to copy files between their local system and any system they can reach on the network
25. **Home Page -** The main page or starting point of the website. Usually named INDEX
26. **Hotspot -** A clickable area on an image that, when the user clicks it, links to a different location
27. **HTML -** Hypertext Markup Language, the authoring language used to create documents on the World Wide Web. It is the code behind all web pages worldwide and lets any computer on the network interpret the file as a web page.
28. **Inline style -** This type of CSS Style is best used to format only a single element or a single page in a site
29. **Internal Style Sheet -** CSS that is part of the html file, Used for individual pages containing large amounts of text. The tag <style> is placed inside the <head> section of the HTML code.
30. **Local site folder -** A folder on a hard drive, flash drive, or floppy disk that holds all the files and folders for a website, local site folder/root folder. A folder on a hard drive that holds all the files and folders for a website.
31. **Meta Tags -** HTML codes that include information about the page, such as keywords and descriptions, and reside in the head section.
32. **Navigation -** This is how people move around within your site: how they go from one page to another. It should be simple, consistent, and accessible to all intended users.
33. **Objects panel -** You can use the panel to insert a variety of objects into your page.
34. **Panel -** These are floating menus that help you make changes to your web page. You can decide whether or not you want them to show, move them around, an expand and collapse them
35. **Pixel -** A unit of measurement related to screen resolution
36. Relative path - A path that references web pages and media files within the same site Dreamweaver maps the pathway between your site in relation to the other files in your site.

37. **Rollover -** This is when one image changes to another when the cursor rolls over the image. You can create Rollovers easily within Dreamweaver and the Objects panel

38. **Root Folder -** The folder created during site definition for storing files and folders

39. **<span> -** Is used to format inline content, such as a part of a sentence, without create a line break in the text

40. **Standard view -** This is one of the ways that you can create your web pages. With standard view you have a blank page and you insert elements into the page and then determine the attributes or properties for those elements

41. **<Style>** - A combination of formatting characteristics such as alignment, font, font size, font color, fills color, and borders that are applied simultaneously.

42. **Tabular Data** - Data that is arranged in columns and rows separated by a delimiter that tells Dreamweaver where to break the data into table cells

43. **Template** - In Dreamweaver, you can save a page as this and designate editable and non-editable regions of it.

44. **Toolbar -** This is the bar at the top of your document window and it allows you to switch between working modes, add a title, refresh your page, upload files, modify your HTML, and check HTML reference help

45. **Target -** When you create a link to will need to "_____" where and how that link opens it within the current window. If you create a link external to your site you may want set it as _blank so that the link opens in a new window

46. **Title -** This is the name of your page. It needs to be a name that identifies your page. Search engines pick up the words in the title. This is also what your page will be called when someone bookmarks it.

47. **Time Stamp -** A date or time that changes automatically when a page is modified

48. **WC3** - It is the international governing body for the development of platform independent web standards and specifications

49. **Web-safe color -** Not all browsers or platforms display color the same. For this reason, it is recommended that you stick with web-safe color when you design your pages.

50. **Web server -** A computer dedicated to hosting websites; it is connected to the internet and configured with software to handle requests from browsers

51. **White Space - Any blank are on a page, regardless of the color**

52. **Window menu -** This menu gives you options to control the display of various types of information

53. **Workspace -** Dreamweaver application interface, which contains windows, toolbars, and panel groups.

54. **XHTML -** This is the next generation of HTML and is a hybrid between HTML and XML. XML was designed to describe data. HTML was designed to display data.

Secondary
ICT
Information Communication Technology
Student's Book

4

Secondary ICT has been written and developed by Ministry of General Education and Instruction, Government of South Sudan in conjunction with Subjects experts. This course book provides a fun and practical approach to the subject of Information Communication Technology, and at the same time imparting life long skills to the students.

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