East African Community
(EAC)

Federation of East African Freight
Forwarders Associations (FEAFFA)

THE EAST AFRICA CUSTOMS AND FREIGHT FORWARDING PRACTICING CERTIFICATE

DIGITAL LITERACY

FEAFFA in collaboration with East Africa Revenue Authorities

BR

Kenya Revenue Authority

RRA Rwanda Revenue Authority

Tanzania Revenue Authority

Uganda Revenue Authority

East African Community (EAC)

The East African Community (EAC) is a regional intergovernmental organization of six (6) Partner States, comprising Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda, with its headquarters in Arusha, Tanzania.

Federation of East African Freight Forwarders Associations (FEAFFA)

The Federation of East African Freight Forwarders Associations (FEAFFA) is a regional private sector apex body of the Customs Clearing and Freight Forwarding (CFA) industry in East Africa. It aims at promoting a professional freight logistics industry for trade facilitation and regional economic growth. FEAFFA strives to address the challenges experienced by its members through training, provision of information, and other aspects of capacity building. It advocates for the full implementation of the East African Community (EAC) Customs Union. The East Africa Customs and Freight Forwarding Practicing Certificate (EACFFPC) is the Federation's and the industry's premier training program in East Africa since 2007.

Copyright © 2021 Federation of East African Freight Forwarders Associations (FEAFFA)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the prior written permission of the copyright holder. Material published in this manual may not be used for any form of advertising, sales, or publicity without prior written permission.

Federation of East African Freight Forwarders Association's liability, trademark, and document use rules apply for the original and the translation.
Copies may be obtained through the following address:

C/O. Federation of East African Freight Forwarders Associations
P.O. Box 22694-00400, Tom Mboya, Nairobi.
Hillcrest Court, Waiyaki Way, Slip Road Westlands, Nairobi, Kenya

Tel: +254 202-684802 | Cell: +254 738 150 673
Email: info@feaffa.com | Website: www.feaffa.com

East African Community
(EAC)

Federation of East African Freight
Forwarders Associations (FEAFFA)

THE EAST AFRICA CUSTOMS AND FREIGHT FORWARDING PRACTICING CERTIFICATE

DIGITAL LITERACY

FEAFFA in collaboration with East Africa Revenue Authorities

Table of contents

1.0 UNIT OVERVIEW 10
1.1 . . Unit Description . . . 10
1.2 . . Unit Summary Learning Outcomes . . . 10
2.0 INTRODUCTION TO ICT AND WINDOWS OPERATING SYSTEM 10
2.1 . . Specific Learning Outcomes . . . 10
2.2 . . Introduction . . . 10
2.3 . . Concepts of Computing . . . 10
2.4 . . History of Computers . . . 11
2.5 . . Components of a Computer . . . 12
2.6 . . Computer Hardware . . . 13
2.7 . . Computer Software . . . 16
2.8 . . Windows Operating System . . . 17
2.9 . . Learning Activities . . . 21
2.10 . Self-Assessment Questions and Activities . . . 21
2.11 . References . . . 22
3.0 CREATING DOCUMENTS USING WORD PROCESSOR 23
3.1 . . Specific Learning Outcomes . . . 23
3.2 . . Introduction . . . 23
3.3 . . Word Processor Overview . . . 23
3.4 . . Creating a New Document . . . 24
3.5 . . Creating Word Document . . . 24
3.6 . . Opening Word Document . . . 25
3.7 . . Correcting and Editing a Document . . . 25
3.8 . . Moving Text within a Document . . . 26
3.9 . . Applying Bold, Italic, and Underline Features while Typing . . . 26
3.10 . Adding Bullets and Numbering while Typing Document . . . 26
3.11 . Applying Fonts Formatting . . . 27
3.12 . Applying desired Paragraph Formatting (Alignment, Indent, and Spacing) . . . 27
3.13 . Applying Numbering features for Existing Document . . . 27
3.14 . Applying Colours for Existing Document . . . 28
3.15 . Applying Indenting Features in an Existing Document . . . 28
3.16 . Aligning Text Left, Center, Justify, Right . . . 28
3.17 . Inserting Page Numbers, Headers, Footers, and Tables . . . 29
3.18 . Changing Layouts Margins, Orientations, Breaks and Columns . . . 31
3.19 . Spell Check a Document . . . 31
3.20 . Learning Activities . . . 32
3.21 . Self-Assessment Questions and Activities . . . 32
3.22 . References . . . 33
4.0 CREATING SPREADSHEETS 34
4.1 . . Specific Learning Outcomes . . . 34
4.2 . . Introduction . . . 34
4.3 . . Overview of a Spreadsheet . . . 34
4.4 . . Starting a New Excel Worksheet . . . 34
4.5 . . Navigating in a Worksheet . . . 35
4.6 . . Adding Data in a Spreadsheet . . . 35
4.7 . . Saving a Worksheet . . . 36
4.8 . . Using Excel as a Simple Calculator to Add, Subtract, Multiply and Divide . . . 36
4.9 . . Applying Simple Formula to Worksheet . . . 36
4.10 . Changing Columns and Row Size width . . . 37
4.11 . Inserting Blank Rows and Blank Columns . . . 37
4.12 . Applying Borders to Worksheet . . . 38
4.13 . Applying Basic Format such as bold, italic, underline, bullets, numbering . . . 38
4.14 . Applying number formatting with commas and decimal . . . 38
4.15 . Applying Font Cell Format . . . 38
4.16 . Sorting Data in a Worksheet . . . 38
4.17 . Inserting Charts in a Worksheet . . . 39
4.18 . Format Chart . . . 39
4.19 . Decision Analysis . . . 40
4.20 . Printing Worksheet . . . 40
4.21 . Learning Activities . . . 41
4.22 . Self-Assessment Questions and Activities . . . 41
4.23 . References . . . 42

5.0 ORGANIZING DATA IN A DATABASE 43
5.1 . . Specific Learning Outcomes . . . 43
5.2 . . Introduction . . . 43
5.3 . . Overview of Database . . . 43
5.4 . . Starting Ms Access . . . 44
5.5 . . Creating Database Table . . . 45
5.6 . . Creating Database Form . . . 46
5.7 . . Adding Design Controls . . . 48
5.8 . . Creating Database Query . . . 50
5.9 . . Creating Report . . . 51
5.10 . Learning Activities . . . 53
5.11 . Self-Assessment Questions and Activities . . . 53
5.12 . References . . . 54

6.0 USING POWERPOINT PRESENTATION 55
6.1 . . Specific Learning Outcomes . . . 55
6.2 . . Introduction . . . 55
6.3 . . Overview of PowerPoint Presentation . . . 55
6.4 . . Creating a New Presentation . . . 55
6.5 . . Adding New Slides to a Presentation . . . 56
6.6 . . Running a Slide Show . . . 57
6.7 . . Presentation Views . . . 57
6.8 . . Applying Themes and Background to a Presentation . . . 59
6.9 . . Copying and Pasting Slides from Different Presentations . . . 60
6.10 . Saving a Presentation . . . 61
6.11 . Opening Existing Presentation . . . 61
6.12 . Inserting Items in a Presentation . . . 62
6.13 . Transition Effects and Slide Timings . . . 62
6.14 . Printing a Presentation . . . 63
6.15 . Learning Activities . . . 64
6.16 . Self-Assessment Questions and Activities . . . 64
6.17 . References . . . 65

7.0 DESKTOP PUBLISHING 66
7.1 . . Specific Learning Outcomes . . . 66
7.2 . . Introduction . . . 66
7.3 . . Desk Top Publishing with MS Publisher . . . 66
7.4 . . Starting Microsoft Publisher . . . 66
7.5 . . Publisher Layout . . . 67
7.6 . . Tabs/Groups . . . 67
7.7 . . Viewing Tools . . . 68
7.8 . . Backstage View . . . 69
7.9 . . Changing or Adding a Template . . . 70
7.10 . Adding, rearranging, and deleting pages . . . 71
7.11 . Text Boxes . . . 73
7.12 . Hyphenation . . . 76
7.13 . Formatting Text . . . 76
7.14 . Inserting Pictures and Clip Art . . . 77
7.15 . Arranging Objects . . . 80
7.16 . Working with Pictures . . . 84
7.17 . Inserting Tables . . . 87
7.18 . Printing and Publishing . . . 92
7.19 . Learning Activities . . . 95
7.20 . Self-Assessment Questions and Activities . . . 95
7.21 . References . . . 96

8.0 COMPUTER NETWORKS, INTERNET AND EMAILS 97
8.1 . . Specific Learning Outcomes . . . 97
8.2 . . Introduction . . . 97
8.3 . . Overview of Computer Networks . . . 97
8.4 . . Types of Networks . . . 97
8.5 . . Computer Media . . . 98
8.6 . . Network Devices . . . 98
8.7 . . Network Terminologies . . . 99
8.8 . . Network Configuration . . . 99
8.9 . . Internet . . . 100

8.10 . E-Commerce 101
8.11 . Electronic Mail (E-Mail) Concept 101
8.12 . Learning Activities 103
8.13 . Self-Assessment Questions and Activities. 103
8.14 . References 104
9.0 INFORMATION TECHNOLOGY SECURITY 105
9.1 . . Specific Learning Outcomes 105
9.2 . . Introduction 105
9.3 . . Overview of Information Technology Security 105
9.4 . . Hardware Security 105
9.5 . . Software Security 105
9.6 . . Data Security 105
9.7 . . User Security 106
9.8 . . Data Protection Law. 106
9.9 . . Health Concerns of Computer Use 106
9.10 . Learning Activities 107
9.11 . Self-Assessment Questions and Activities. 107
9.12 . References 108

FOREWORD

Customs Clearing Agents, Freight forwarders, and Warehouse Operators in the East African Community (EAC) region continue to play a vital role in the facilitation of trade particularly with regards to the assessment tax, storage of goods, transportation, and last-mile delivery to clients. This, in turn, facilitates cargo movement and clearance from all ports.

The agents handle goods worth millions of dollars on behalf of the shippers. Besides, they originate documents that facilitate movement and clearance of cargo culminating in errors that slow down the flow of business. The movement of cargo depends on how fast and correctly documentation is done for verification by the respective Customs Authorities. A delay in customs clearance increases the cost of doing business.

This pointed to the need for these agents to be equipped with the requisite knowledge, skills, and attitudes to carry out their work efficiently, just as their counterparts from customs.

The EAC region, with support from TradeMark East Africa (TMEA), has made significant steps towards bridging the knowledge and skills gap in the customs clearing and freight forwarding industry. The introduction of the East Africa Customs and Freight Forwarding Practicing Certificate (EACFFPC) in 2006, a regional training programme jointly implemented by the EAC directorate of customs, the East African Revenue Authorities (EARAs), the National Association of the Freight Forwarding Industry, and FEAFFA was a big step. Since its inception, over 7000 agents have graduated from this training.

A review of the programme in 2015 and a market survey conducted in 2020 supported by TradeMark East Africa (TMEA) highlighted key areas of improvement for the EACFFPC programme to achieve the aim of producing competent customs agents, freight forwarders, and warehouse keepers. The revised curriculum has therefore been designed to address these challenges and shortcomings. The revamped EACPPFC programme is designed to enhance the ability of freight forwarders to provide competitive and high-quality end-to-end services thereby reducing inventory costs and increasing safety levels in warehousing operations in the East African region.

With the revised EACFFPC curriculum, the dream of attaining a professional and compliant freight logistics industry in the East African region has been strongly boasted.

ACKNOWLEDGMENT

The Curriculum Implementation Committee (CIC) is grateful to the EAC sectoral council on Trade Industry Finance and Investment for adopting the EACFFPC as an EAC training programme for clearing and forwarding agents in the region. This is a testimony to the effect the programmeme has had on the clearing and forwarding industry in the EAC region.

The CIC is also grateful to the EAC Directorate of Customs, the Commissioners of Customs of the East Africa Revenue Authorities, the Chairpersons of National Associations of clearing and forwarding agents, and the President of FEAFFA for their dedication and support to the EACFFPC programmeme.

Special appreciation for the National Curriculum Implementation Committees for providing their trainers to participate in the development and validation of the curriculum and training materials. CIC also acknowledges the FEAFFA secretariat for excellently coordinating the curriculum and training materials development and validation process.

The CIC in a very special way recognizes TradeMark East Africa (TMEA) who provided the financial support to update the curriculum, develop and publish the 2021 edition of the EACFFPC training materials. We remain indebted to you forever.

We also appreciate all EACFFPC trainers, students, and stakeholders for the constant feedback that has been incorporated in this edition of the training materials.

DIGITAL LITERACY

1.0 UNIT OVERVIEW

1.1 Unit Description

This unit describes competencies required to use a computer and other digital devices for the purposes of communication, work performance and management at the workplace. It addresses different computer software and hardware required, data security in an automated environment, using computers to solve tasks, communicate and store information.

1.2 Unit Summary Learning Outcomes

At the end of the unit, the trainee should be able to:

1. Identify computer software and hardware
2. Apply security measures to data, hardware, software in automated environment
3. Apply computer software in solving tasks
4. Apply internet and email in communication at workplace
5. Apply desktop publishing in official assignments
6. Prepare presentation packages

2.0 INTRODUCTION TO ICT AND WINDOWS OPERATING SYSTEM

2.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Explain the Concepts of ICT and the Components of a computer
ii. Explain the Functions of ICT
iii. Identify the role of Windows Operating System in conducting business operations
iv. Navigate the computer using Windows Operating System
v. Create and manipulate files and folders

2.2 Introduction

For Windows Operating System, the model introduces students to the concept of operating systems with a view of appreciating its role within the computer. The topic covers the role of windows in the computer; common locations in the windows operating system; creating and manipulating files and folders. The unit module should emphasize the parts of a windows, concept of paths, file explorer, creating and manipulating text files, and using basic windows commands.

2.3 Concepts of Computing

2.3.1 Definition of a Computer

- A programmable, electronic device that accepts data, performs operations on that data, and stores the data or results as needed.
- Computers follow instructions, called programs, which determine the tasks the computer will perform.
- Too many people and organizations purchase and use Computers for the wrong reasons. Computers are practical tools to be used in helping you get results.

2.3.2 Benefits of using a Computer

Computers are needed where:

- We need **accurate** knowledge to assist decision making.
- There are **time** constraints or sheer magnitude of work involved.
- We need to reduce **effort** in tackling certain tasks.
- We need **cost efficiency**.
- There is a need to assist in **enhancing Customer service**.
- There is a **Decisions making process** such as forecasting of market trends to ensure business survival.

2.3.3 Functions of a Computer

- Input: Entering data into the computer
- Processing: Performing operations on the data
- Output: Presenting the results (information)
- Storage: Saving data, programs, or output for future use
- Communications: Sending or receiving data

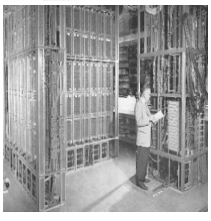
2.4 History of Computers

- "Computer" was originally a **job title**: it was used to describe those human beings (predominantly women) whose job was to perform the **repetitive calculations** required to compute such things as navigational tables, tide charts, and planetary positions for astronomical almanacs.

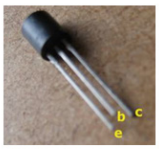
- Before computers, we had early computing devices
    - Abacus, slide rule, mechanical calculator.
    - Punch Card Tabulating Machine and Sorter.

Evolution of Computers:

- First-generation computers (1946-1957)
    - Enormous and powered by **vacuum tubes** for circuitry and **magnetic drums** for memory,
    - Were enormous, taking up entire rooms.
    - Input was based on **punched cards** and paper tape.
    - Used a great deal of electricity, and generated a lot of heat
    - ENIAC and UNIVAC



- Second-generation computers (1958-1963)
    - Used transistors instead of vacuum tubes
    - Computers were smaller, more powerful, cheaper, more energy-efficient, and more reliable
    - Punch cards still used for input, however magnetic drums were replaced by magnetic tape to input and store data.



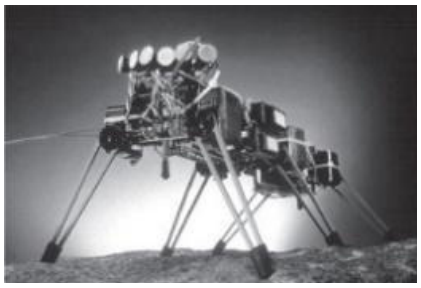
A Transistor

IBM Stretch computer of 1959

- Third-generation computers (1964-1970)
    - Used integrated circuits (ICs).
    - Transistors were miniaturized and placed on **silicon chips**, called semiconductors.
    - Increased the speed and efficiency of computers.
    - Keyboards and monitors introduced to replace punched cards.
    - The use of an **operating system**, which allowed the device to run many different **applications** at one time.
    - Computers became accessible to a mass audience because they were smaller and cheaper than their predecessors.

- Fourth-generation computers (1971-present)
  - Use microprocessors. Thousands of integrated circuits were built onto **a single silicon chip**. The result was the **microprocessor**.
  - A computer could now fit in the palm of the hand.
  - Use keyboards, mice, monitors, and printers.
  - Use magnetic disks, flash memory, and optical disks for storage.
  - Computer networks, wireless technologies, Internet introduced.
  - The Intel 4004 chip, developed in 1971, located all the components of the computer - from the central processing unit and memory to input/output controls - on a single chip. In 1981 IBM introduced its first computer for the home user (the personal computer), and in 1984 Apple introduced the Macintosh. Microprocessors also moved out of the realm of desktop computers and into many areas of life as more and more everyday products began to use microprocessors.

- Fifth generation (now and the future)
  - Infancy stage based on **artificial intelligence**
  - Are **still in development**, though there are some applications, such as voice recognition, that are being used today.
  - The goal of fifth-generation computing is to develop devices that respond to **natural language input** and are **capable of learning** and self-organization. Based on optical computers and utilize nanotechnology



- Technology of Tomorrow
  - Nanoscience - study of very small structures
  - Biomedical Chip Implants - embedded as identification devices
  - Artificial Intelligence - make decisions based on criteria
  - Autonomic computing – Self manipulation of computers

2.5 Components of a Computer

A computer may be classified by **technology (Digital/Analog), purpose (General/ Specialized)**, and **size**. We focus on classification by size.

- **Mini-Computers (Laptops, Notepad, PDAs, Mobile Phones, & embedded computer) -** combines the CPU, the monitor, the keyboard, and the mouse in one unit.
  - So small that you can carry it on your laps when commuting.

FIGURE 1-13 Smartphones. Most mobile devices today are based on the mobile phone.

  - Includes laptops, notebooks, PDAs etc.
  - Other parts can be connected to the laptop.
  - Can do anything that a desktop can do except for embedded devices.

  - Embedded computers are embedded into a product and
    - designed to perform specific tasks or functions for that product

- **Micro-Computer (Desktop) –** can be positioned on top of a table where a person is working.

- **Macro-Computer (Main frame)** Mainframe computer: Powerful computer used by large organizations to process large amounts of centralized data
    - Standard choice for large organizations, hospitals, universities, large businesses, banks, government offices.

    - Located in climate-controlled data centers and connected to the rest of the company computers via a network.
    - Larger, more expensive, and more powerful than midrange servers.
    - Usually operate 24 hours a day.
    - Also called high-end servers or enterprise-class servers.

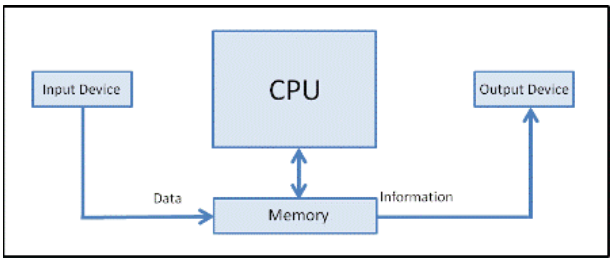
- **Macro-Computer (Server) -** Holds information that other computers, can retrieve.
    - The computers are connected to the server via cable, wireless connection, etc to be able to retrieve this information.
    - Although not particularly recommended, any computer, including a desktop or even a laptop can be used as a server, as long as it can do the job required.
    - A server is more defined by the program (called an Operating System) that is installed in it, not how the machine looks.

- **Macro-Computer (Supercomputers) -** are built to minimize distance between circuit boards.
    - They operate at very high speed for complex uses such as designing airplanes, solving complex engineering formulas having billions of steps mathematically etc.
    - Supercomputers are the main servers in the Internet System.

2.6 Computer Hardware

- Refers to the Physical *parts of a computer*

- Hardware is made up of devices classified as:
    - Input Devices
    - Storage Devices
    - Processing Devices
    - Output Devices

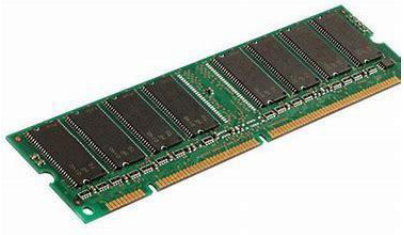


- Input Devices: Accept data or instructions from the user. Data is the raw facts that are fed to the computer.
    - *Keyboard:* An input device used to enter characters at the location marked by the insertion point or cursor. It can be wired or wireless.
    - *Pointing devices:* Used to select and manipulate objects. Often used to select input data or issue commands to the computer. Common types of pointing devices are the mouse, Stylus, and Touch screens.
    - *Scanners, Readers, and Digital Cameras* - access input from source documents containing data that already exists in physical form (order form, photograph, invoice, check, or price label)

- Output Devices: Used to provide feedback from the computer. They can produce soft copy or hard copy output.
  - *Monitors & Display screen:* Presents output visually. Monitors are detached devices such as those used for a desktop computer while Display screens are inbuilt into a variety of devices such as tablets. They produce soft copy output.
  - *Data projector:* Display device that projects all computer output to a wall or projection screen. Often, they are found in classrooms or conference rooms. They can be wireless or integrated into devices. They produce soft copy output.
  - *Printers:* Produce hard copy output. The most common types of printers are inkjet printers and laser printers. There are other printers that are also becoming common such as LCD, LED, Thermal and 3-D printers,

- Processing Devices – Also known as the Central processing unit (CPU) or processor/ microprocessor. It does the vast majority of processing for a computer. Processing refers to the conversion of data to information. Information is the output that is useful for decision making. There are two processing devices that make up the central processing Unit.
  - *The Arithmetic Logic Unit* – This is the part that executes the computer's commands.
  - *The Control Unit* –The control unit is the part of the computer fetches commands for execution. It takes several fetch and execution cycles to do even a simple addition of two numbers.

- Storage Devices – Keep information for future retrieval or consumption. Consist of a storage device and a storage medium. A Medium is inserted into device to be used. Storage devices are typically identified by letter C:
- Data can be stored randomly or sequentially
- The data retention ability of a device determines its volatility. Volatile - Storage that lasts only while the power is on for example with RAM, CACHE, and REGISTERS. Non-Volatile - Storage that lasts regardless of the power availability such as Hard disks or ROM.
- Main Memory – (Internal) refers to chip-based storage needed by the computer when it is working. RAM (random access memory) is the computer's main memory and can be expanded. ROM (read only memory) are chips located on the motherboard into which data or programs have been permanently stored.



- Secondary Storage – (External) refers to storage devices that keep data for future use. It can be:
  1. Magnetic Storage - Store data using magnetic fields e.g. Hard disk, Magnetic tape.
  2. Optical Discs - Store data optically (using laser beams) e.g. CD, DVD, or Blu-Ray Disc (BD).
  3. Flash/Electric Memory Systems – Store data using electric charge e.g. Solid-state storage disks or Flash memory sticks/ cards.

- System unit. The main case of a computer. Holds the internal hardware for a computer such as the Main Circuit board (Motherboard), Storage devices, Power supply, Cooling fans, CPU, Memory, Expansion Cards, and other components.

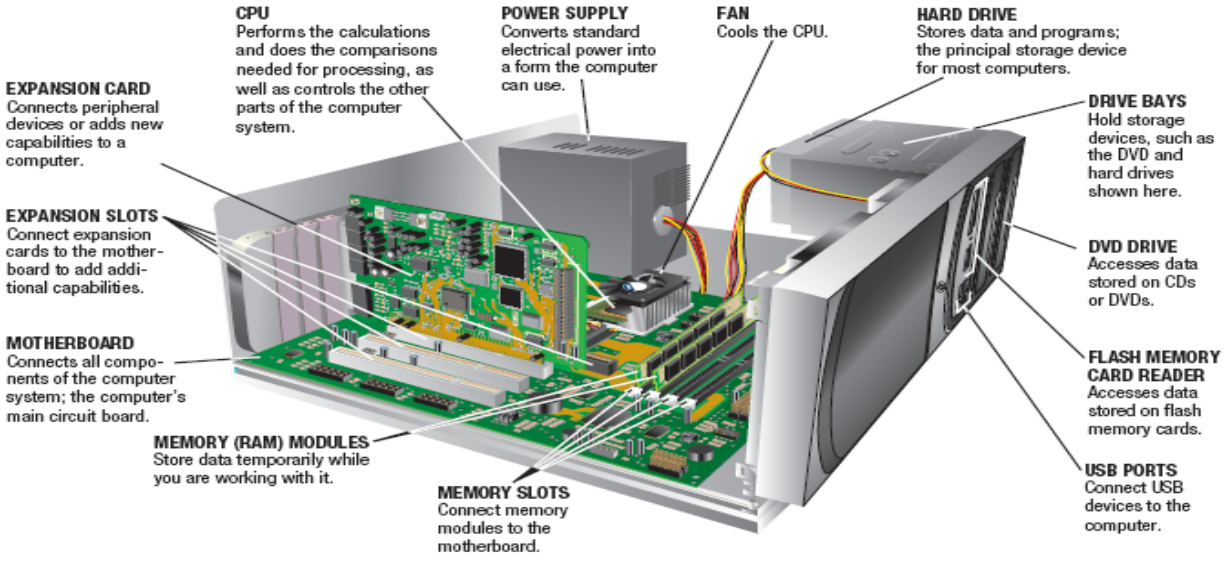
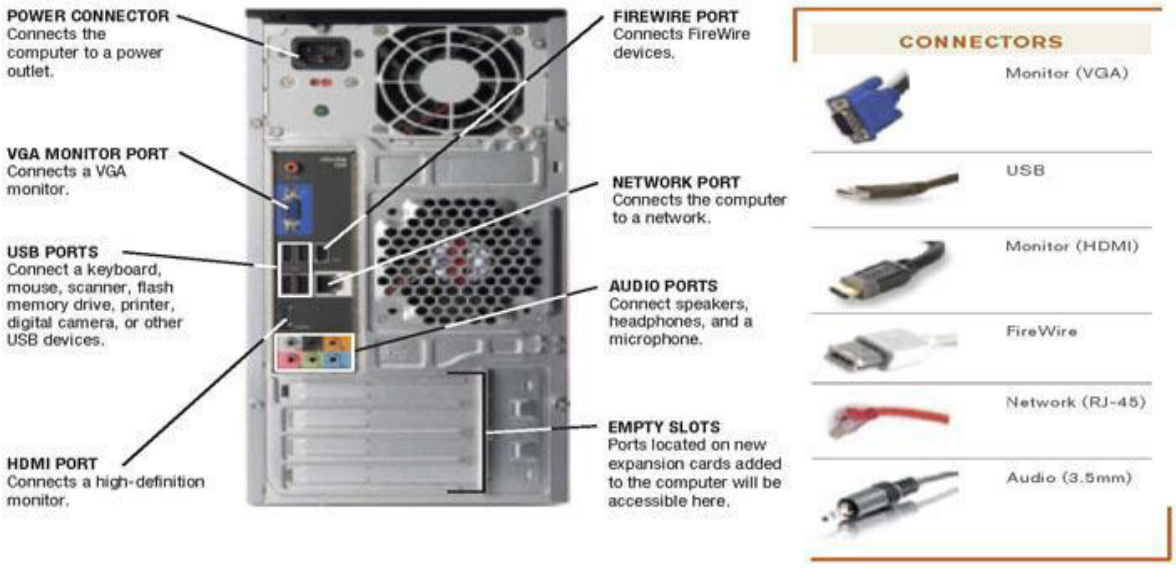


FIGURE 2-7
Inside a typical system unit. The system unit houses the CPU, memory, and other important pieces of hardware.

- **Ports and connectors**

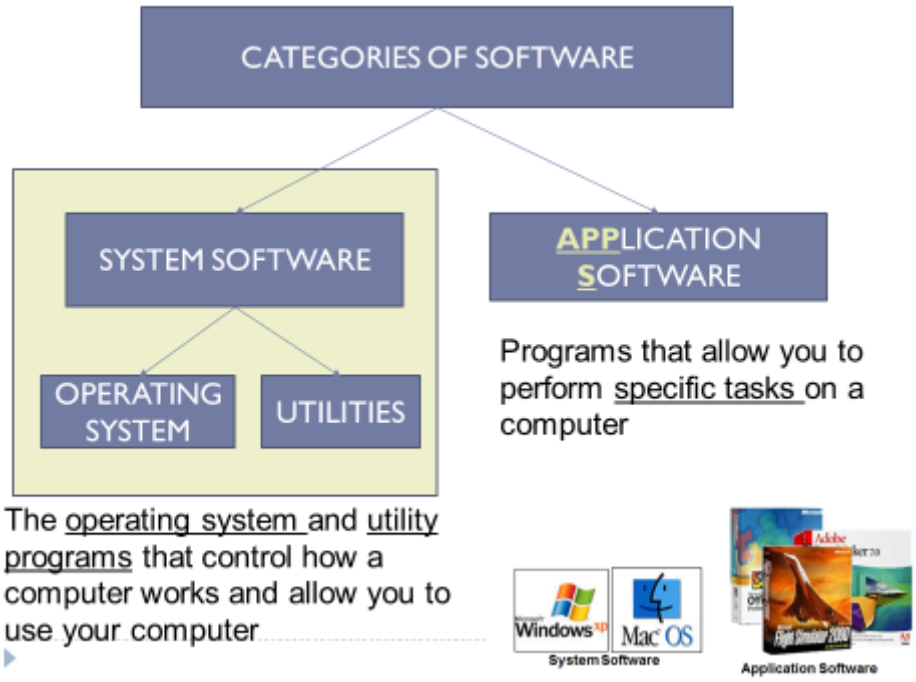
FIGURE 2-16
Typical ports for desktop computers and examples of connectors.



2.7 Computer Software

- *Non-*Physical *parts of a computer. Refer to instructions given to a computer.*

- Software Categories



- *System Software* - Starts and runs the computer. It finds devices and launches applications. It manages files (storage) and Controls hardware configuration. It also protects the computer from unauthorized use and maintains it by providing Backup and recovery tools.

- *Application Software* – Performs a user's tasks such as creating documents and playing some music. Common examples include word processors, spreadsheets, databases, presentations, and graphic applications.

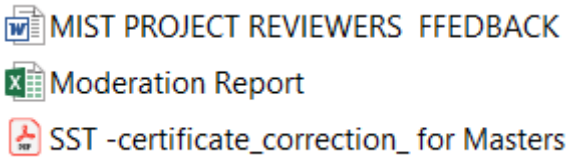
- The computer startup process is also known as the Boot Process and includes the following steps:
  - Step 1: The basic input/output system (BIOS) is activated.
  - Step 2: A Power-on-self-test (POST) checks attached hardware.
  - Step 3: The operating system loads into memory.
  - Step 4: Configuration and customization settings are checked.

- The operating System facilitates communication with the computer hardware. Common operating systems are Microsoft Windows, Apple macOS, Linux, Android and iOS. All operating systems must handle three basic tasks:
  - *Allocating System Resources* - The operating system decides what resource will be used and for how long.
  - *Monitoring System Activities* – These activities include System Performance and System security
  - *File and Disk Management* - A user needs to copy, move, delete, and rename files. This is the category of operating system functions that the user actually sees the most. (*File management*).
- Utility programs - Software that performs a specific task, related to managing or maintaining the computer system. Many utilities are built into operating systems. Examples include Disk clean-up utilities, Accessibility Utilities, and Display Utilities.

2.8 Windows Operating System

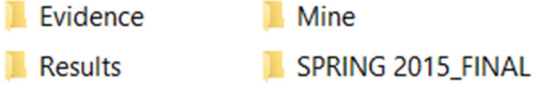
2.8.1 Working with files

- A key task of the operating system is working with files and folders. When working with the computer you will need to do this almost all the time. Here we look at the basics of working with files, including how to open files, move your files into folders, and delete files.
- Files contain your work and can include written documents, digital photos or videos are all types of files. When working with the computer you will be viewing, creating, or editing these files.
- Files are usually represented by an icon with a name. In the image below, you can see three different types of files with icons representing the file format. We shall examine more on these formats later.



2.8.2 Working with folders

- Windows uses folders to help you organize files. You can put several related files inside a folder, just like you would put documents inside a real paper folder. In the image below, you can see some folders.

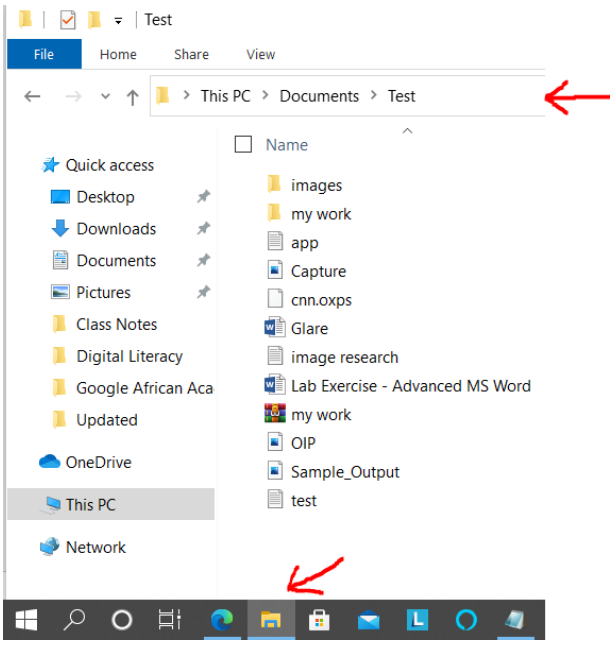


2.8.3 File Explorer

- You can view and organize files and folders using a built-in application known as File Explorer.
- To open File Explorer, click the File Explorer icon on the taskbar, or double-click any folder on your desktop. A new File Explorer window will appear. Now you're

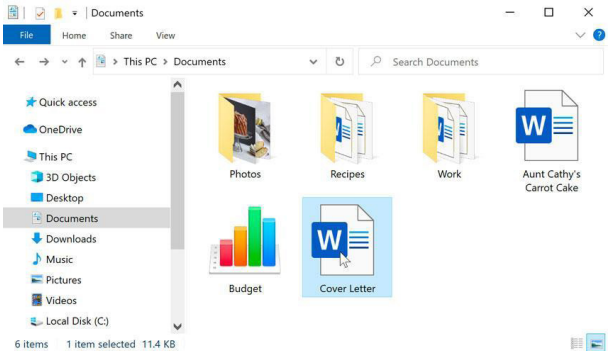
ready to start working with your files and folders.

- Notice that you can also see the location of a folder in the address bar near the top of the window.

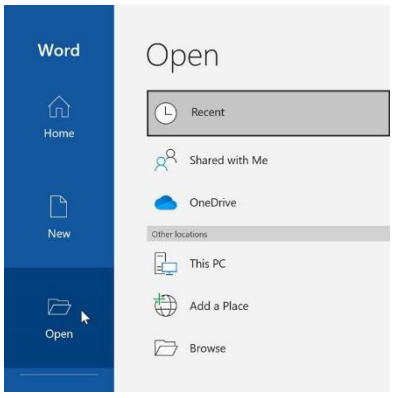


2.8.4 Open a file

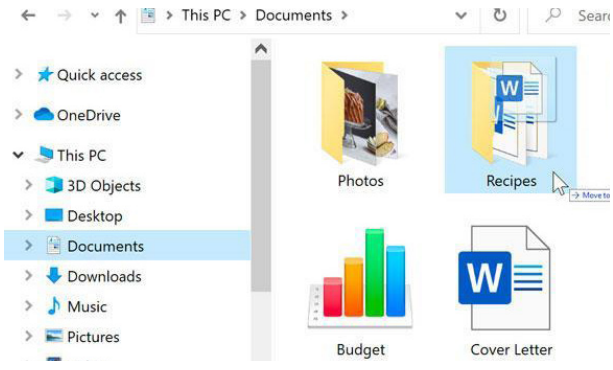
- There are two main ways to open a file:
- Find the file on your computer using file explorer or otherwise and double-click it. This will open the file in its default application. In our example, we'll open a Microsoft Word document (Cover Letter. docx), which will open in Microsoft Word.



- Open the application, then use the application to open the file. Once the application is open, you can go to the File menu at the top of the window and select Open. We shall examine this option more later.



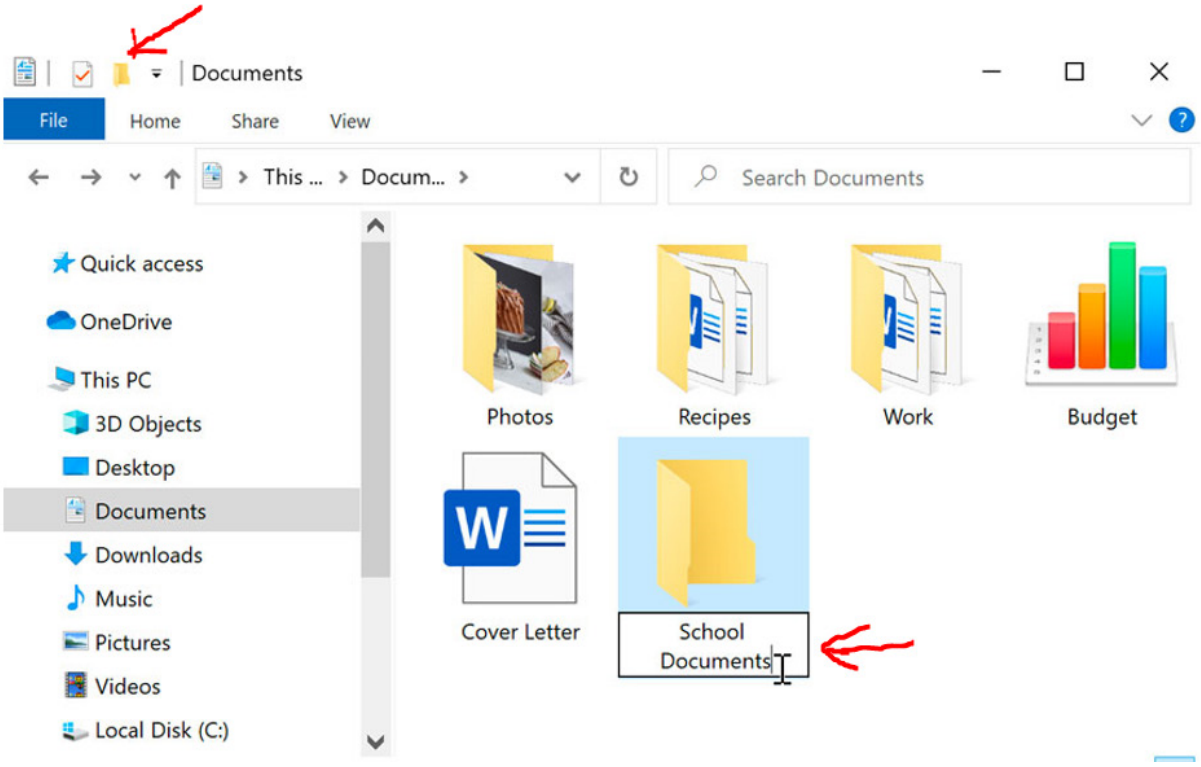
- Moving and deleting files - As you begin using your computer, you will come across scenarios where you need to move files to different folders or delete files you no longer use.
- To move a file: Click and drag the file to the desired location. Release the mouse. The file will appear in the new location. In the following example, we drag the word document to the recipes folder.



- You can use this same technique to move folders. Note that moving a folder will also move all the files within that folder.

2.8.5 Create a new folder

- Move to the location where you need the New folder then select the New Folder icon shown below or right-click, then select New Folder. The new folder will appear. Type the desired name for the folder and press Enter. In the following example we called it School Documents.

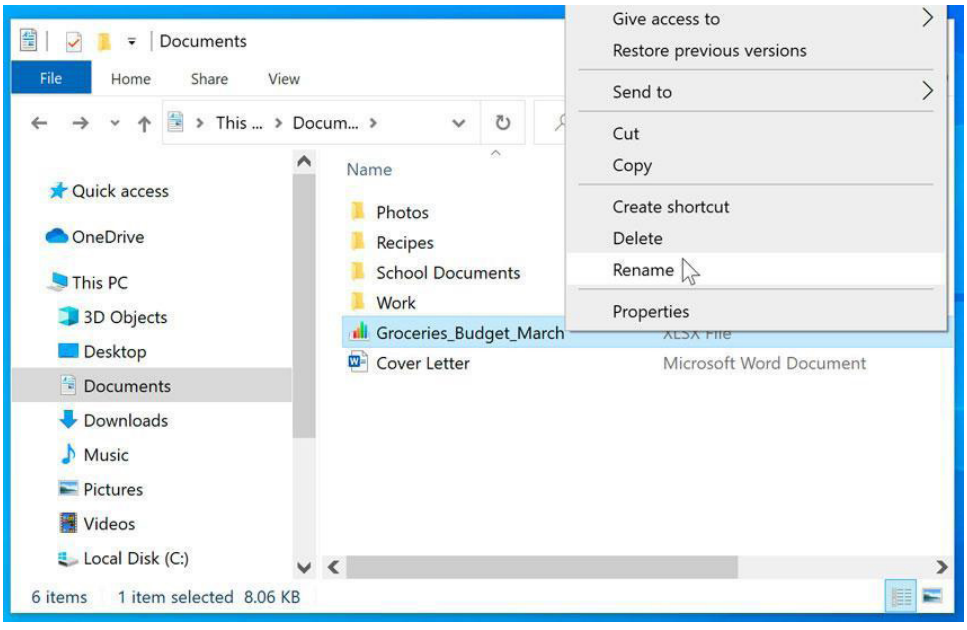


2.8.6 Rename a file or folder

- You can change the name of any file or folder. A unique name will make it easier to remember what type of information is saved in the file or folder.
- Right-click on the folder and select Rename from the menu that appears. Replace the old name with the desired name on your keyboard and press Enter. The name will be changed.

2.8.7 Delete a file or folder

- If you no longer need to use a file or folder, you can delete it. When you delete a file, it is temporarily moved to a folder known as the **Recycle Bin**. If you change your mind, you can move the file from the Recycle Bin back to its original location. If you're sure you want to permanently delete the file, you will need to **empty the Recycle Bin**.

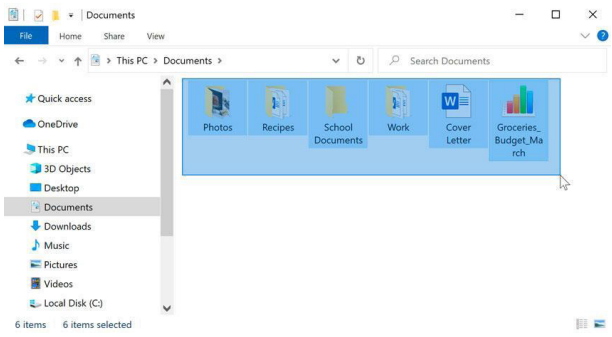


- **Right-click** on the folder and select **Delete** from the menu that appears. You can also click the file to select it and press the **Delete** key on your keyboard.
- Note that deleting a folder will also delete all the files within that folder.

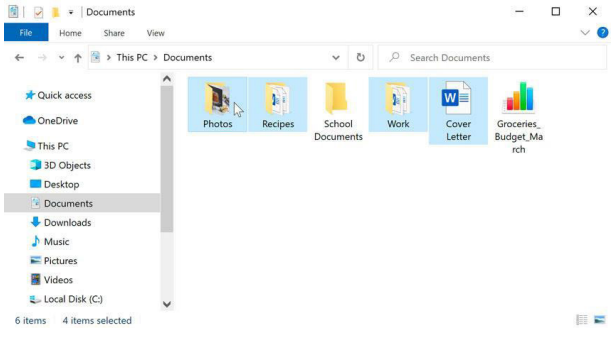
2.8.8 Selecting multiple files

This technique helps you to manipulate files and folders even faster. There are a few ways to select more than one file at a time:

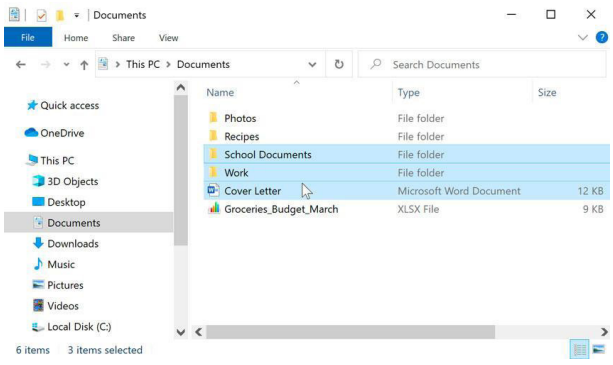
- If you're viewing your files as icons, you can click and drag the mouse to draw a box around the files you want to select. When you're done, release the mouse; the files will be selected. You can now move, copy, or delete all these files at the same time.



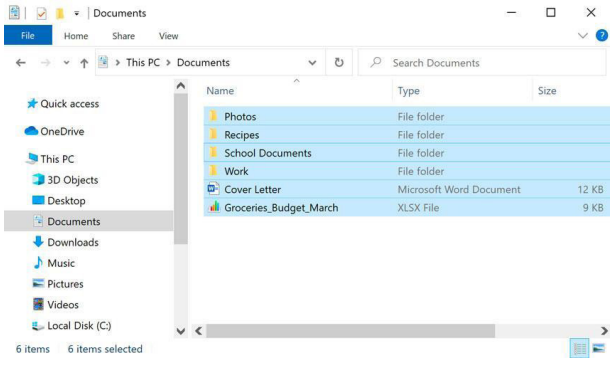
- To select **specific files** from a folder, press and hold the **Control** (labelled Ctrl) key on your keyboard, then click the files you want to select.



- To select a **group of files** from a folder, click the first file, press, and hold the **Shift** key on your keyboard, then click the last file. All the files between the first and last ones will be selected.

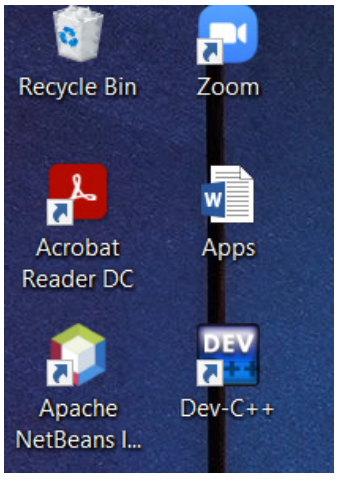


- If you want to select **all files in a folder** at the same time, open the folder in File Explorer and press **Ctrl+A** (press and hold the **Control** key on your keyboard, then press **A**). All of the files in the folder will be selected. **Ctrl+A** is an example of a **keyboard shortcut**.

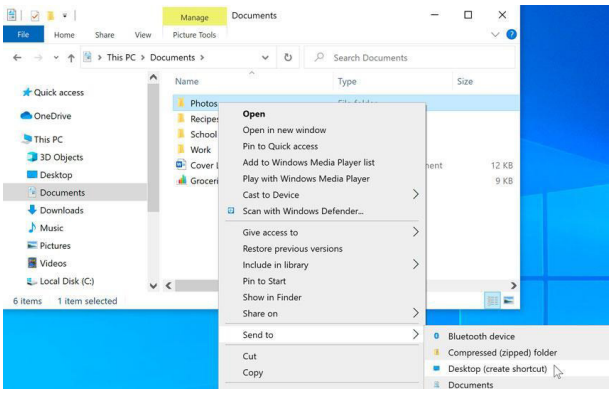


2.8.9 Shortcuts

- If you have a file or folder you use frequently, you can save time by creating a shortcut on the desktop. Instead of navigating to the file or folder each time you want to use it, you can simply double-click the shortcut to open it. A shortcut will have a small arrow in the lower-left corner of the icon.



- Note that creating a shortcut does not create a duplicate copy of the folder; it's simply a way to access the folder more quickly. If you delete a shortcut, it will not delete the actual folder or the files it contains. Also note that copying a shortcut onto a storage drive will not work; if you want to bring a file with you, you'll need to navigate to the actual location of the file and copy it to the storage drive.
- To create a shortcut, locate and right-click the desired folder, then select Send to Desktop (create shortcut).



- A shortcut to the folder will appear on the desktop. Notice the arrow in the lower-left corner of the icon. You can now double-click the shortcut to open the folder at any time.

2.9 Learning Activities

Activity 1:

Identify a physical computer device in the workplace:

Required:

i. Identify the different parts of a computer?
ii. Identify external components of a computer such as the mouse, keyboards, and monitors.
iii. Open a desktop computer and identify the physical components inside the system unit. These include the main memory, processor, hard disk, expansion slots, motherboard and the various ports used to connect the computer to external devices.

Activity 2:

Open a computer and undertake various computer processes as required below.

Required:

i. Create a folder
ii. Create a file using notepad
iii. Save the file in the folder
iv. Create another text file
v. Save it in the folder
vi. Delete the file by dragging it in the recycle bin
vii. Recover the file from recycle bin
viii. Open a word processor
ix. Close the word processor

2.10 Self-Assessment Questions and Activities

i. What are the functions of computers?
ii. What are the benefits of using a computer?
iii. What is the role of Windows Operating System in conducting business operations?

2.11 References

- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.
- Vermaat, Misty E. (2016). Microsoft Word 2016: Introductory. Cengage Learning.
- Sandra Cable, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks (2019), Shelly Cashman Series Microsoft® Office 365 & Excel 2019 Comprehensive, 1st Edition, eBook.

3.0 CREATING DOCUMENTS USING WORD PROCESSOR

3.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Identify the roles of word processor commands.
ii. Format a word processor document.
iii. Create and manipulate files and folders.
iv. Use word processing.

3.2 Introduction

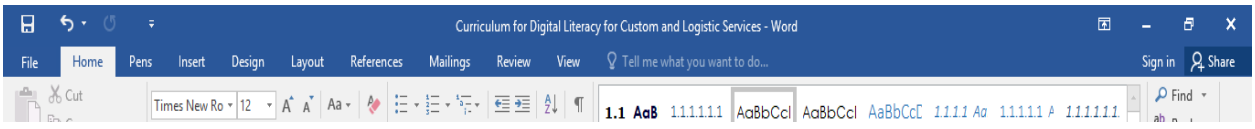
This topic introduces to the student the art of creating documents such as reports. The topic covers: introduction to the role of word-processor, creating, editing document; basic formatting such as bold, italic, underline, bullets, numbering; copy, move text; align text; set margins, insert and remove page and section breaks; font and paragraph formatting; create headers and footers; page numbering and formatting; print setup, preview/print; find and replace; create newspaper style columns; insert pictures/objects; create, modify, format table; create table of content; mail merge. The unit module should emphasize the concept of preparing documents to accomplish various organization tasks such as reports and letters.

3.3 Word Processor Overview

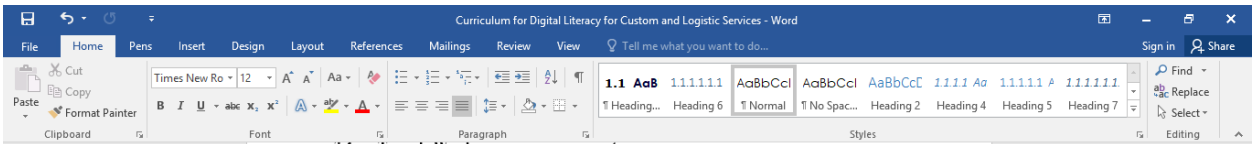
A word processor is a tool for producing documents like letters and reports. Word processor has a word wrap feature. The latter means that once the margin is reached the cursor automatically move to the next line.

There are 3 parts of the ribbon namely Tabs, Groups and Commands

Tab: There are 7 basic ones across the top and each one of them represents an activity area



Group: each tab has several groups which show related items. In the **Home tab**, we have the Clipboard, Font, Paragraph, Styles and Editing



Command: a command is a button, or a box used to enter information. It could also be a menu.

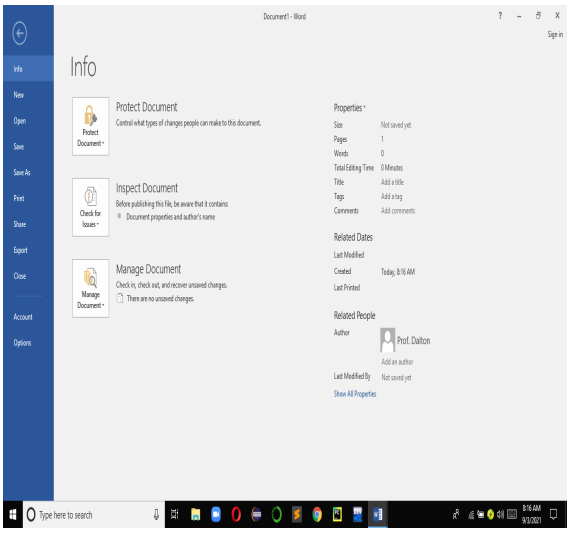
Thus, a Ribbon contain most of the commands and button that one can use to accomplish any given task. Most of the basic commands are under the

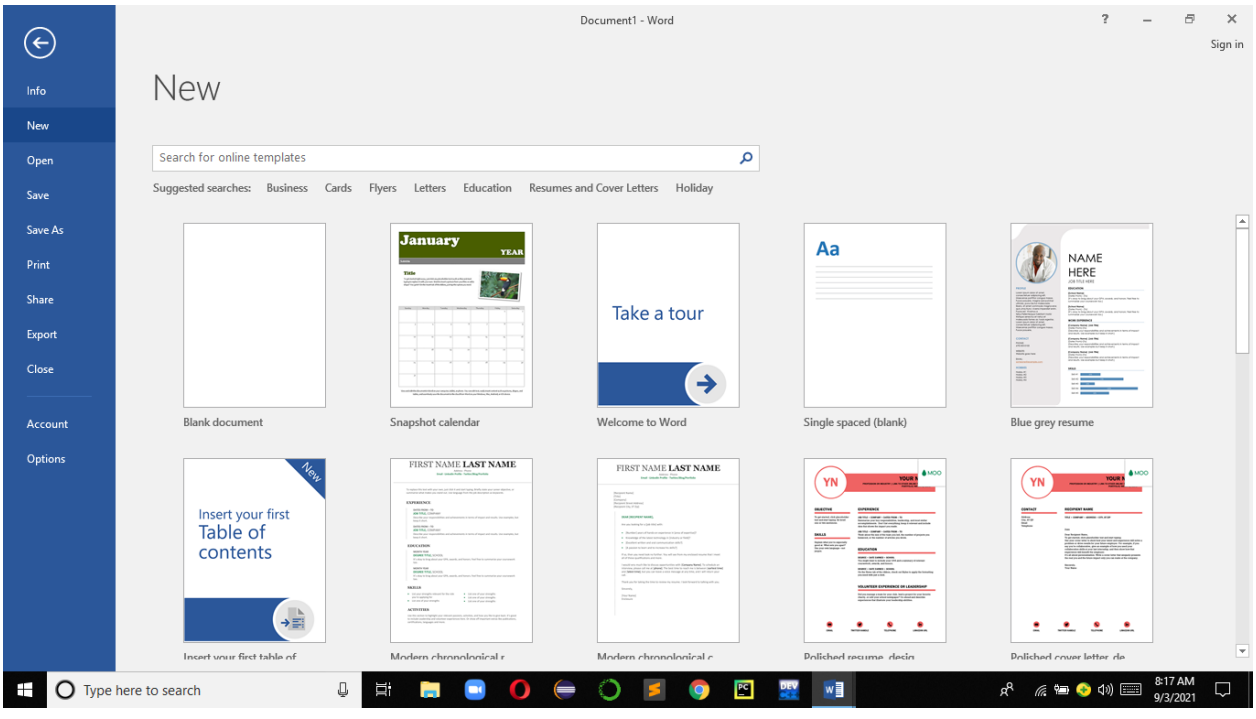
Home Tab.

Features can be applied while producing the document or for an existing document. To introduce a feature while producing the document, first you have to click the feature. Some feature might require one to click them to stop the activity. For existing document, features are mostly applied by first highlight the desired text and then click on the desired feature.

3.4 Creating a New Document

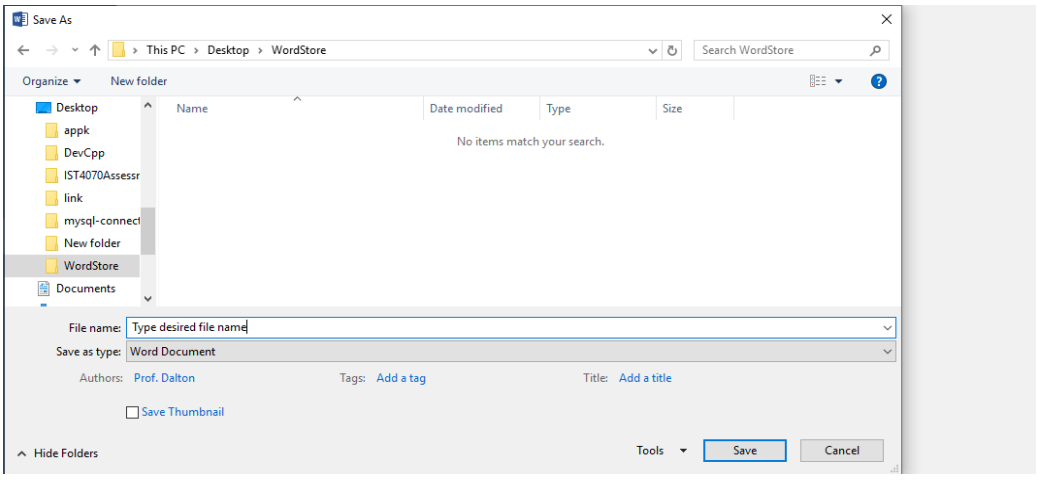
Step 1: Click File
Step 2: Click New
Step 3: Double click Blank document
Step 4: Start typing
Step 5: Press enter key only when you want to create a new paragraph





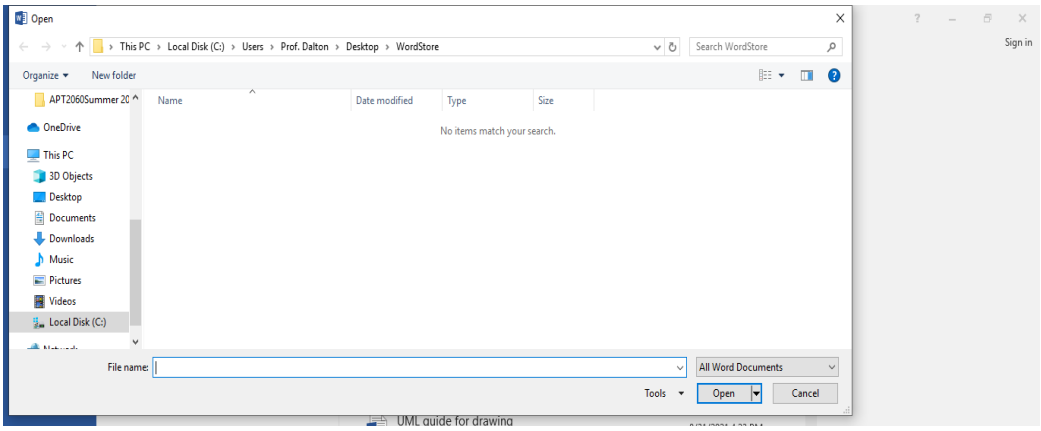
3.5 Creating Word Document

Step 1: Type desired Text
Step 2: Click File
Step 3: Click Save or Save as
Step 4: Select folder where to save
Step 5: Provide a suitable file name
Step 6: Click Save button



3.6 Opening Word Document

Step 1: Click File
Step 2: Click Open
Step 3: Select desired file
Step 4: Click Open



3.7 Correcting and Editing a Document

- Step 1: Use the arrow keys to move the cursor to the position of the correction.
- Step 2: If you want to insert character, Word will insert the character on the immediate right of the cursor.
- Step3: You can delete using delete key. The letter deletes the immediate character that is on the left of cursor, backspace key deletes the immediate character to the right of cursor.

NB: To highlight means to select desired text, the task is done by positioning the cursor at the beginning of the text, then hold down the mouse button and drag up to the desired end of text.

3.8 Moving Text within a Document

(i) Drag and Drop

Step 1: Select the text you want to move.
Step 2: Position the mouse pointer over the selection and hold down the left mouse button.
Step 3: Drag the text to the desired location and then release the mouse.

(ii) Cut and Paste

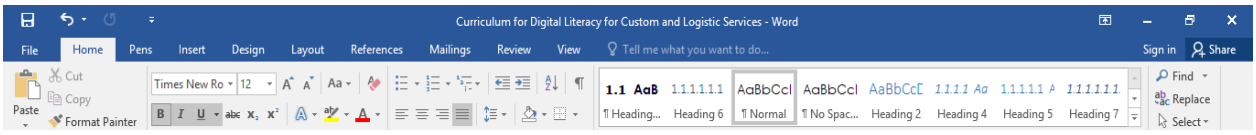
Step 1: Select the text to be cut
Step 2: Click Cut from Home tab (or Press Ctrl+X)
Step 3: Place the cursor where you want to move text to
Step 4: Click Paste from Home tab (or Ctrl +V)

(iii) Copy and Paste

Step 1: Select the text to be copied
Step 2: Click Copy from Home tab (or Ctrl+C)
Step 3: Position cursor where to paste the text
Step 4: Click Paste from Home tab (Ctrl+V)

3.9 Applying Bold, Italic, and Underline Features while Typing

It is possible to apply basic formats while producing the document. For example, to apply bold, italic, and underline click on the bold, italic and underline buttons, continue typing and to then click bold, italic and underline button.



The following text is bolded, italized and underline. After clicking bold, italic and underline button, the typed text will not have those features.

Applying Bold, Italic, and Underline Features for Existing Document

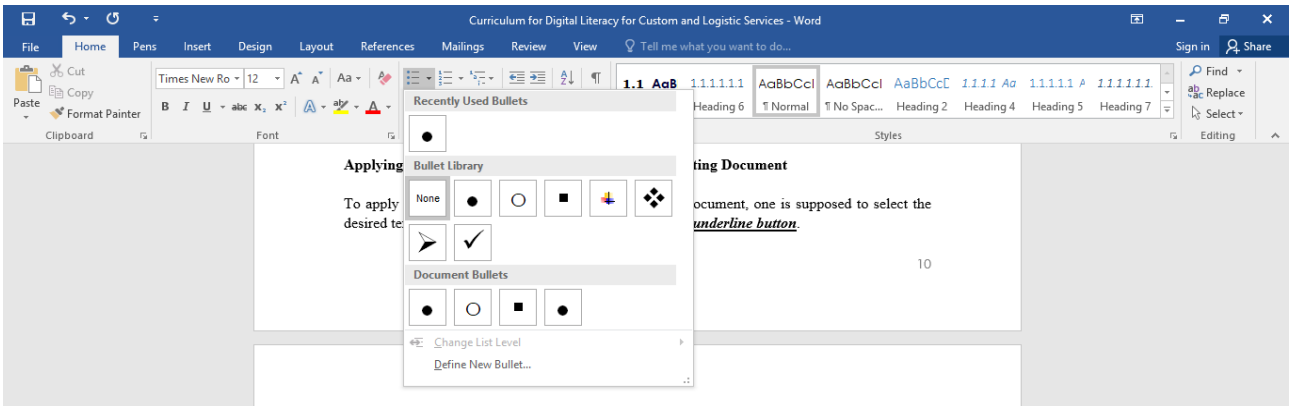
To apply bold, italic and underline feature for existing document, one is supposed to select the desired text (highlight) and then click the ***bold, italic and underline button***.

Step 1: Highlight desired text
Step 2: click on desired feature e.g. bold, italic, underline.

3.10 Adding Bullets and Numbering while Typing Document

Step 1: Select desired bullets/numbering from the icon for bullets /Numbering
Step 2: Type Desired text

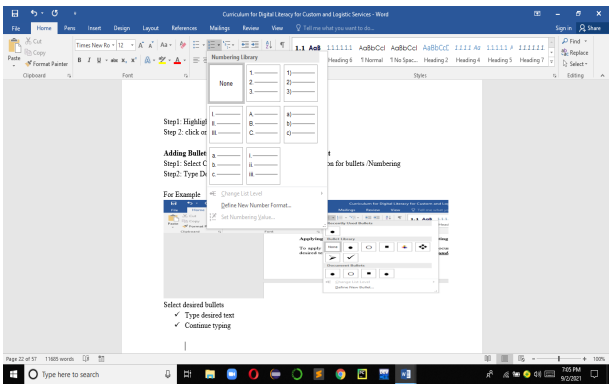
Example for applying bullets features while typing document



Select desired bullets

- Type desired text
- Continue typing

Example for applying Numbering features while typing document



Select Desired Numbering

i. Type desired text
ii. Continue typing

Applying Bullet features for existing typing document

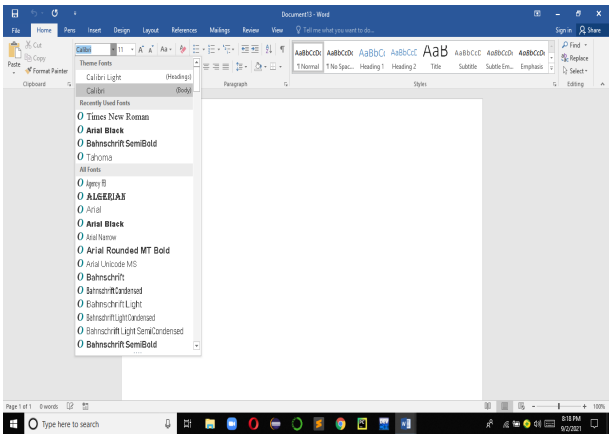
Step 1: Highlight desired text
Step 2: Click on desired Bullet

Example

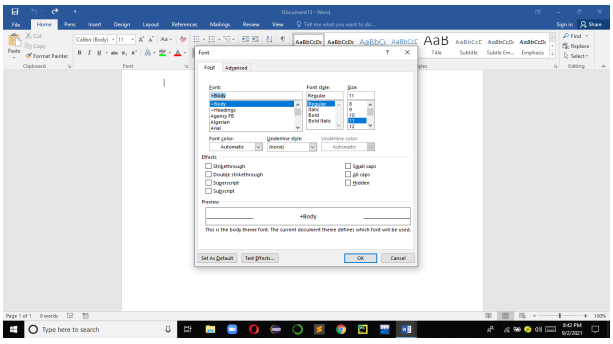
- Highlight Existing desired text
- Select Desired Bullet

3.11 Applying Fonts Formatting

Step 1: Select desired text
Step 2: From Home Font menu, select desired font, and font size

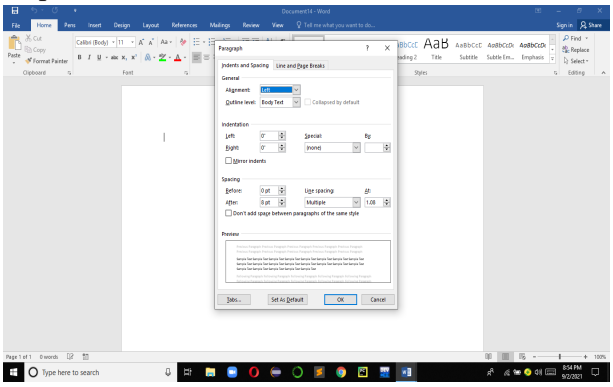


Alternative approach to applying fonts to existing document
Step 1: Select desired text
Step 2: Right click mouse button
Step 3: Select desired Fonts or desired Effects



3.12 Applying desired Paragraph Formatting (Alignment, Indent, and Spacing)

Step 1: Highlight desired paragraph
Step 2: Select desired paragraph format
Step 3: Click OK



3.13 Applying Numbering features for Existing Document

Step 1: Highlight desired text
Step 2: Click on desired Numbering

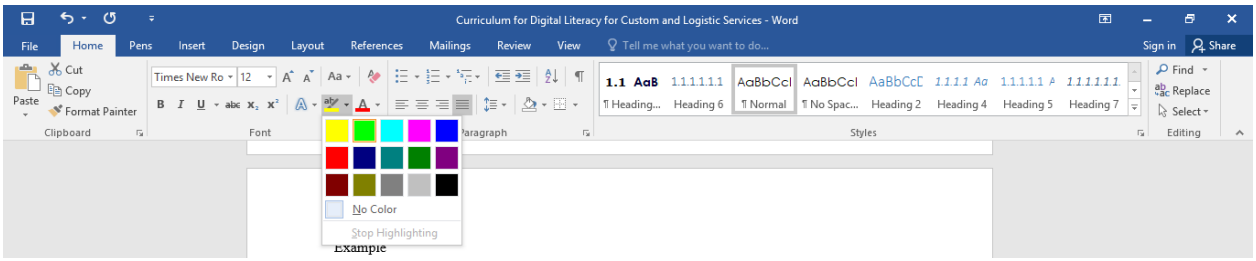
Example

1) Highlight Existing desired text
2) Select Desired Numbering

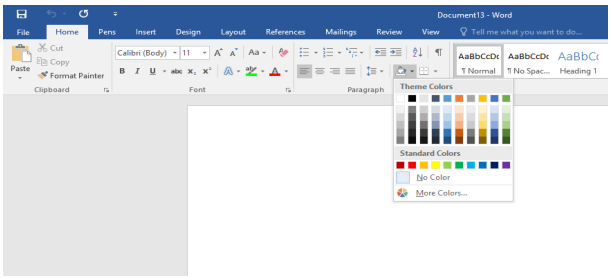
3.14 Applying Colours for Existing Document

Step 1: Highlight desired text
Step 2: Click on desired Color

Example
Highlight Existing desired text. Select Desired color

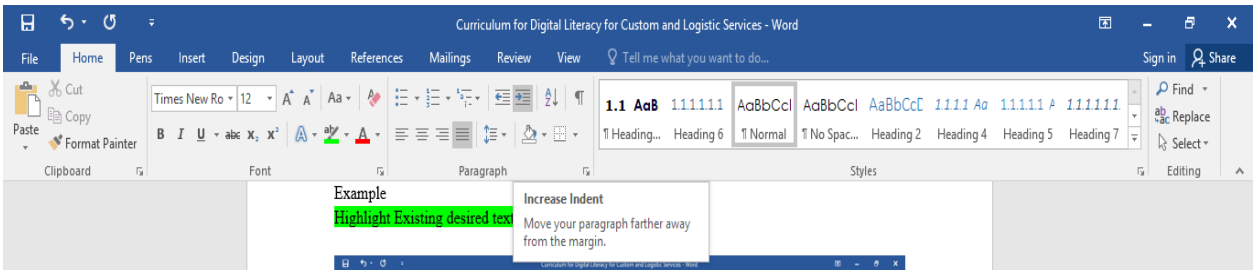


Or



3.15 Applying Indenting Features in an Existing Document

Step 1: Position cursor anywhere within the desired text (or highlight the entire desired text)
Step 2: Click on desired indent button

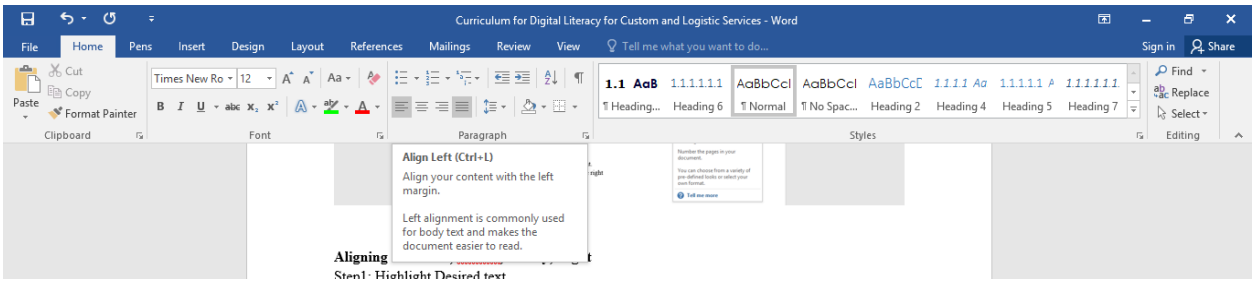


Example

This text is indented to the right.
This text is also indented to the right

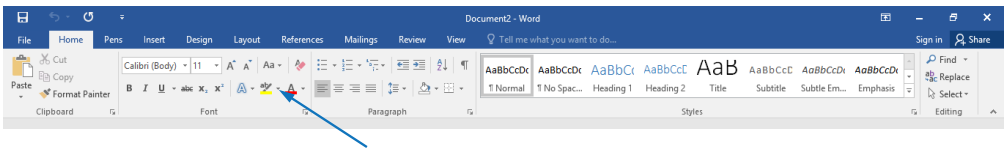
3.16 Aligning Text Left, Center, Justify, Right

Step 1: Highlight Desired text
Step 2: Click on Left/Center/Justify/Right alignment button



Alternate Approach to Align Text

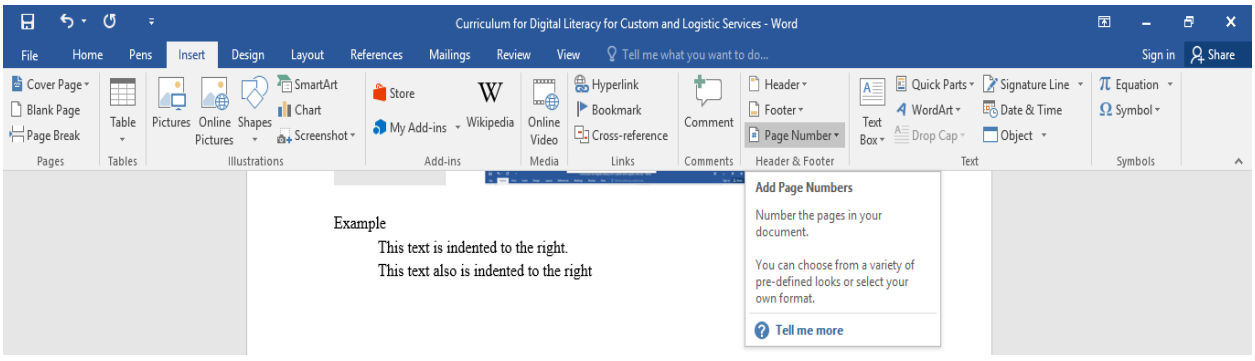
Step 1: Select the paragraph
Step 2: In the Home tab, Paragraph Group select the alignment you want
Step 3: To center align text click the **Center** button, to align left click **Align Left** button, to align right click **Align Right** button, to align on both sides click **Justify** button.



3.17 Inserting Page Numbers, Headers, Footers, and Tables

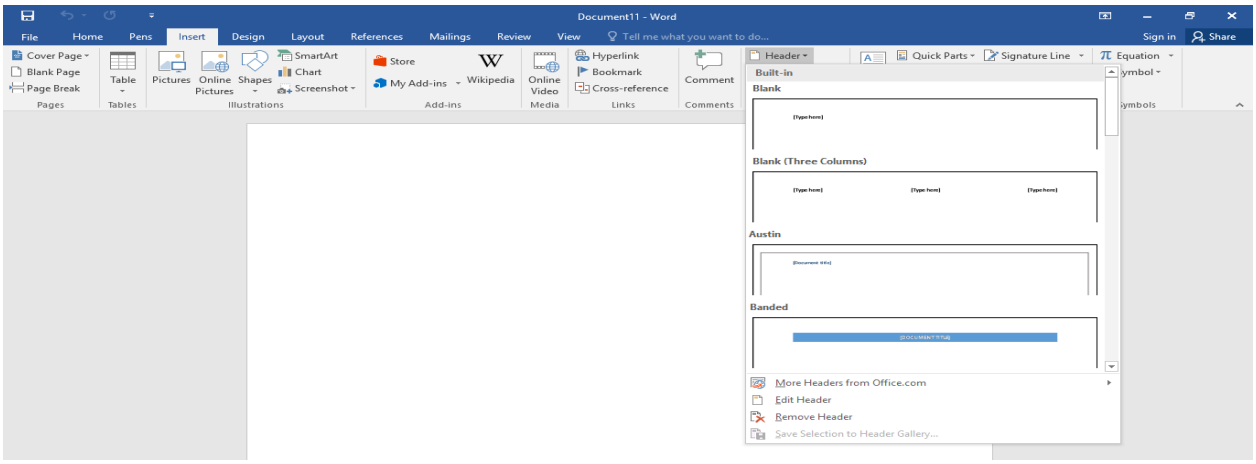
Inserting Page Numbers

Step 1: From Menu click Insert
Step 2: Click Page Number
Step 3: Select Desired Position



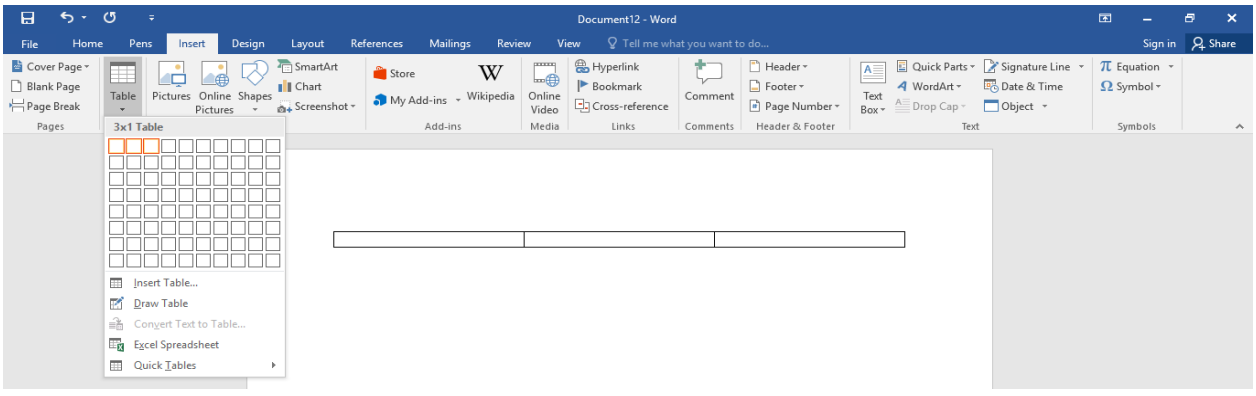
Inserting Headers and Footers

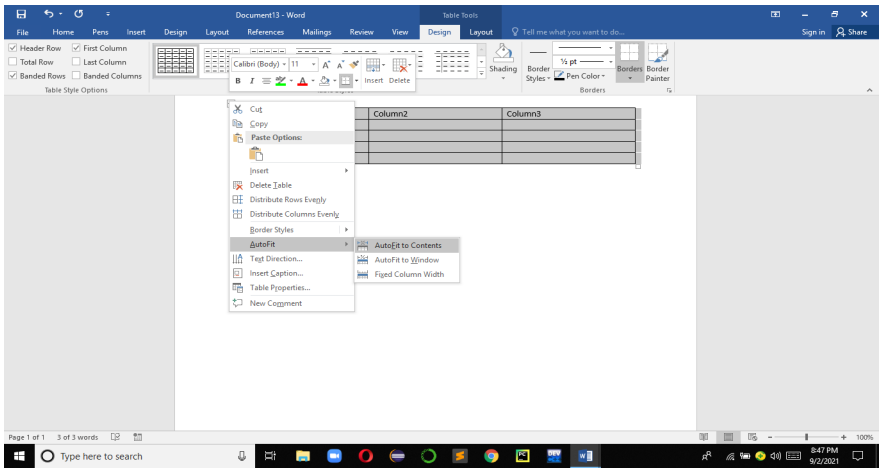
Step 1: From menu click Insert
Step 2: Click header/Footer
Step 3: Type Desired header/Footer



Inserting Tables and Formatting Tables

Step 1: From menu click Insert
Step 2: Click Table
Step 3: Select desired number of columns
Step 4: Type text in the first cell. Move to the next cell using mouse or tab key
Step 5: To add a new row, move to the last column and press tab key
Step 6: Select the table
Step 7: Right click mouse button
Step 8: Apply desired format.



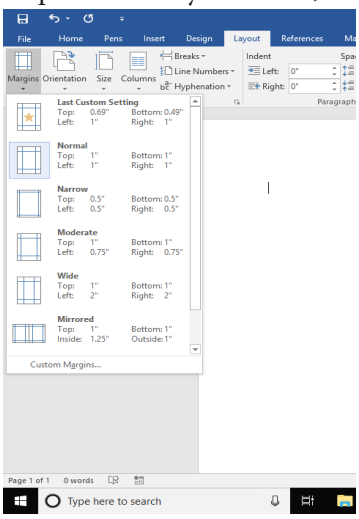


3.18 Changing Layouts Margins, Orientations, Breaks and Columns

Changing Layout Margins

Step 1: Select desired text

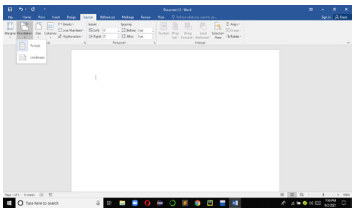
Step 2: From Layout menu, select desired margins



Changing Layout Orientations

Step 1: Select desired text

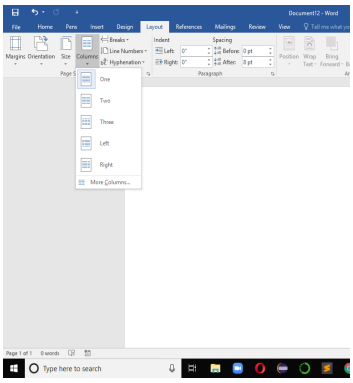
Step 2: From layout menu, select desired orientation (Portrait/Landscape)



Changing Layout Columns

Step 1: Select desired text

Step 2: from layout menu, select desired column numbers

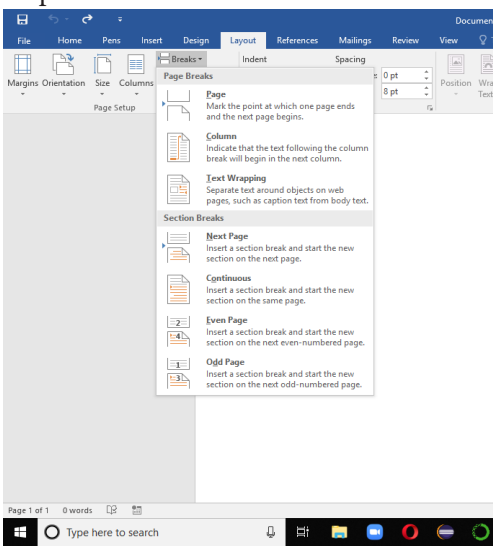


Changing Layout for Page breaks

Step 1: Position cursor at the desired location

Step 2: Click layout

Step 3: Select desired breaks



3.19 Spell Check a Document

Step 1: Click on the Review tab to access the Proofing group

Step 2: Position the cursor at the beginning of your document

Step 3: Click on Spelling & Grammar command in the Proofing tab

Step 4: Choose or ignore the specific word or add it to the dictionary

Step 5: To accept the suggested change choose the Change button

Step 6: Click Ok button

Using the Thesaurus

Step 1: Click inside or highlight word

Step 2: From Review tab, in the Proofing group, Click Thesaurus, The Research pane appears alongside the document.

Step 3: Under Search for the word "purpose" is selected and the type of Thesaurus is also indicated.

Step 4: Choose a word from the list and click Insert

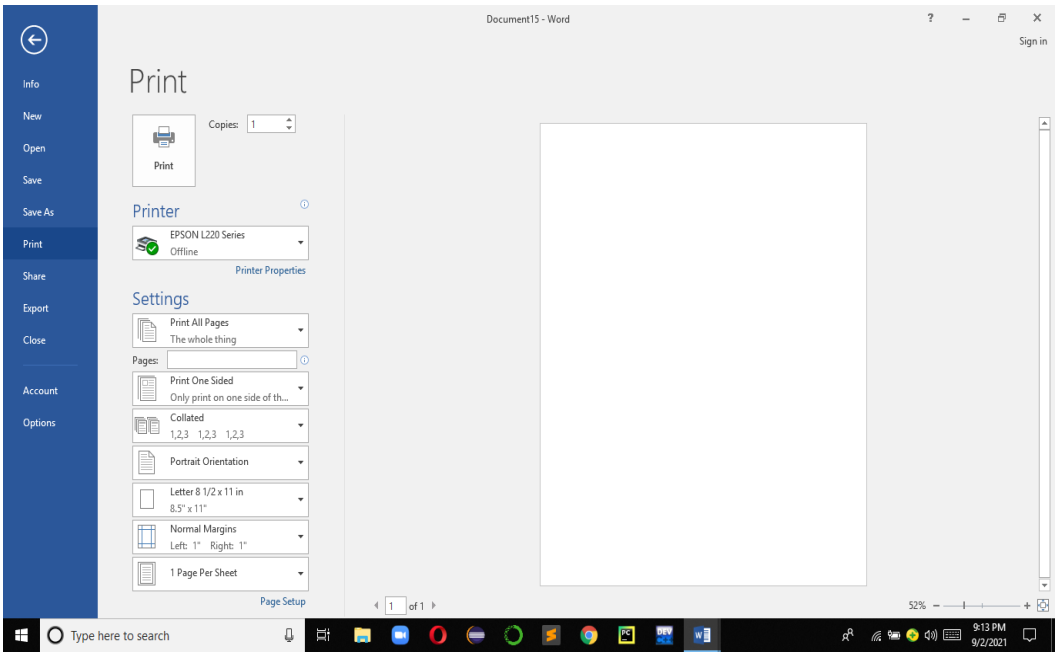
Printing a word document

Step 1: Type desired text

Step 2: Click File

Step 3: Click Print

Step 4: Select desired print format



3.20 Learning Activities

In one of the class units, identify a document, a report or an assignment you are working on. Process the activity on the computer.

Required:

(i) Using any information for the certificate program that the students are pursuing,
   a. While typing the document introduce features such as **bold**, *italic*, underline in some parts of your document
   b. Format some key points with bullets and other sections with page numbering

(ii) Continue typing the text and produce at least 4 new paragraphs. In those new paragraphs introduce the following formatting features:
   a. Bold, underline, bullets
   b. Align the margins with Align Justify
   c. Colour some parts of the documents

(iii) Continue typing and this time insert a table of 4 columns. Key in any relevant details and format your table accordingly

(iv) Create page breaks

(v) Insert page numbers are centred

(vi) Introduce headers and footers in your document

(vii) Save your document with any name of your choice

3.21 Self-Assessment Questions and Activities

1. What is the role of the word processor?
2. How can you use the word processor in the organization?
3. What are the critical issues in developing and formatting a word document?

3.22 References

- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.
- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.
- Vermaat, Misty E. (2016). Microsoft Word 2016: Introductory. Cengage Learning.
- Sandra Cable, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks (2019), Shelly Cashman Series Microsoft® Office 365 & Excel 2019 Comprehensive, 1st Edition, eBook

4.0 CREATING SPREADSHEETS

4.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Identify the roles of spreadsheet commands
ii. Create a worksheet
iii. Format a spreadsheet document
iv. Create charts from data in a spreadsheet
v. Analyse data in a worksheet
vi. Solve problems using spreadsheet

4.2 Introduction

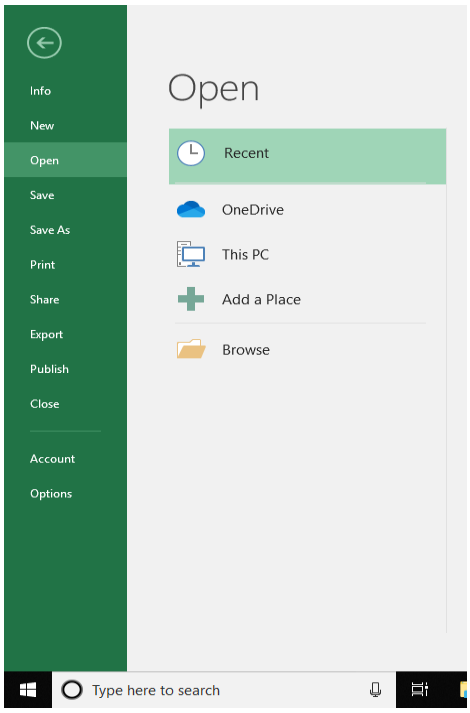
The topic introduces the student to the art of solving problem using spreadsheet. The topic covers, introduction to the role of spreadsheet; creating worksheet, selecting range; editing worksheet; formula and in-built functions; filling data; cell formatting (number, text, date, percentage); font formatting; applying borders; inserting/editing chart; data decision analysis using WHAT-IF analysis, COUNTIF; printing; page setup. The unit module should emphasize the concept of preparing worksheets to accomplish various organization tasks such as maintaining records, analysing data, and making decisions.

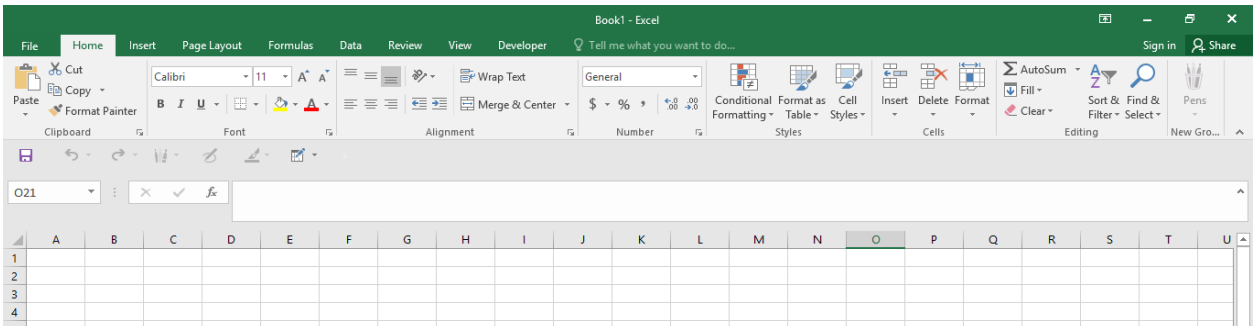
4.3 Overview of a Spreadsheet

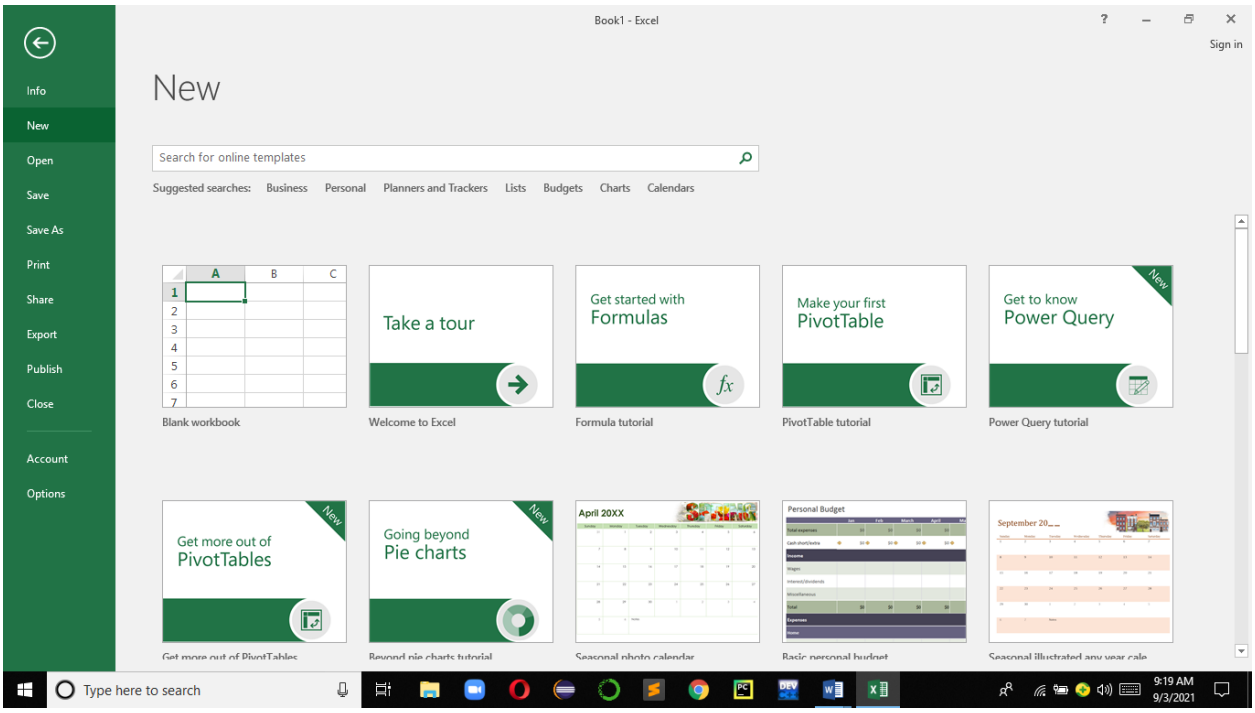
A *spreadsheet* is a *computer* application for organization, analysis, and storage of data in tabular form. A spreadsheet is made up of rows and columns. Rows are labelled with numbers and columns are labelled with letters of alphabet. A cell is an intersection between a row and a column. A cell is named using Column letter and Row Number e.g., A3.

4.4 Starting a New Excel Worksheet

Step 1: Click File
Step 2: Click New
Step 3: Click Blank workbook







4.5 Navigating in a Worksheet

It can be performed by any of the following:

(i) Using mouse to move to any cell a worksheet

(ii) Using tab key to move from one cell to another

(iii) Using navigation keys such as arrows, page up and page down keys

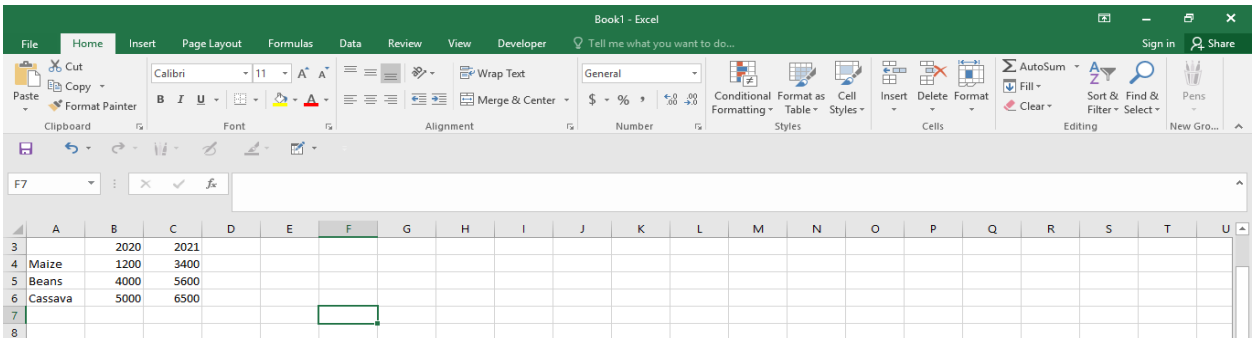
4.6 Adding Data in a Spreadsheet

To enter any data in a worksheet, the following steps are applied:

Step 1: Move cursor to desired cell location e.g., A2

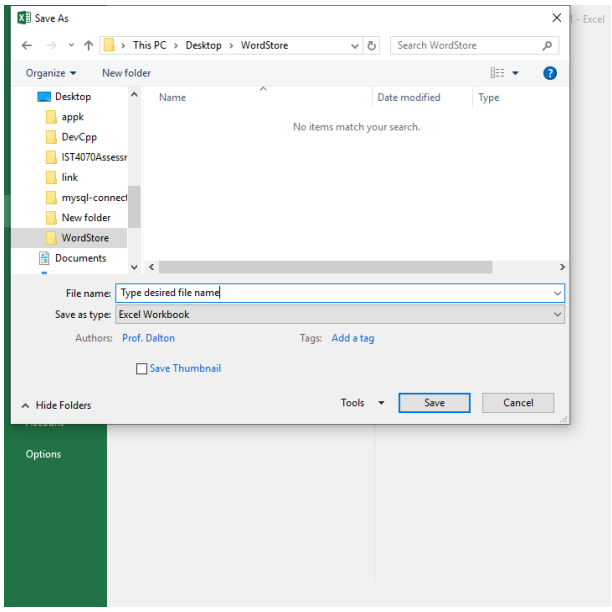
Step 2: Type desired data

Step 3: Use the mouse or tab key to move to another cell. Pressing enter key move cursor to the next cell below



4.7 Saving a Worksheet

It is important to continue saving a worksheet all the time. The following steps are applied to permanently save new or existing worksheet
Step 1: Create worksheet
Step 2: Click File
Step 3: Click Save or Save as
Step 4: Select desired folder
Step 5: Provide desired file name
Step 6: Click Save

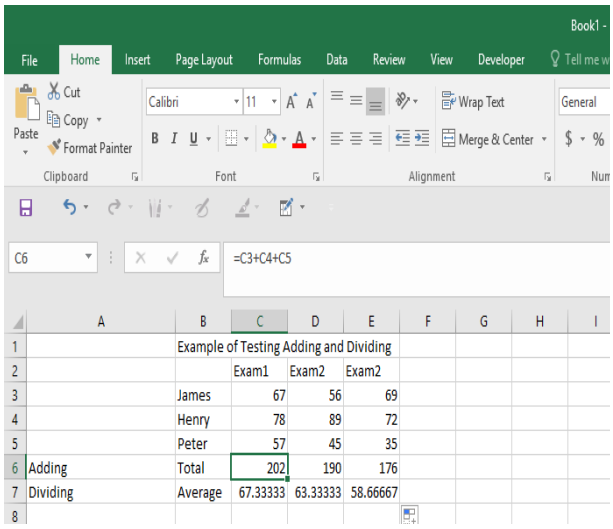


4.8 Using Excel as a Simple Calculator to Add, Subtract, Multiply and Divide

We use the following mathematical operators
(+) Sign for addition
(-) Sign for subtraction
(*) Sign for multiplication
(/) Sign for division

Example1: Adding
Step 1: Enter data
Step 2: Move cursor the cell where the formula will be displayed
Step 3: Type =
Step 4: Use + sign and cell address to combine all the range for the values to be summed, e.g., C3+C4+C5
Step 5: Press Enter key
Step 6: To copy the formula to other area, position cursor at the button corner of the cell that has the formula. Wait until a small sign + appears and then hold down the mouse button and drag to the cells to receive **copy of the formula**.

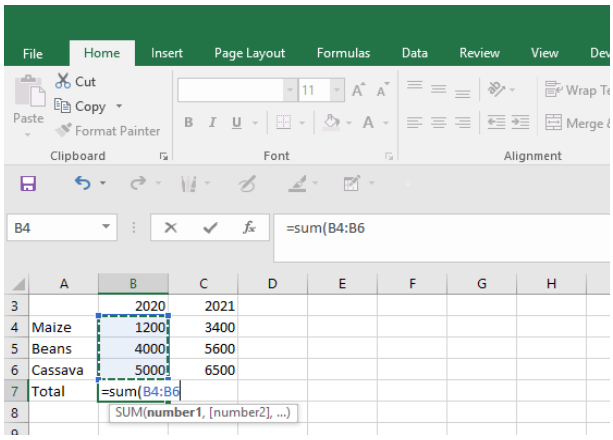
Example 2: Dividing
Step 1: Repeat example1
Step 2: Position cursor where you want the formula to appear
Step 3: Type =
Step 4: Type the cell with the value to be divided say C6 followed by /
Step 5: for this example, type 3 and enter
Step 6: repeat the step6 as shown in example 1



4.9 Applying Simple Formula to Worksheet

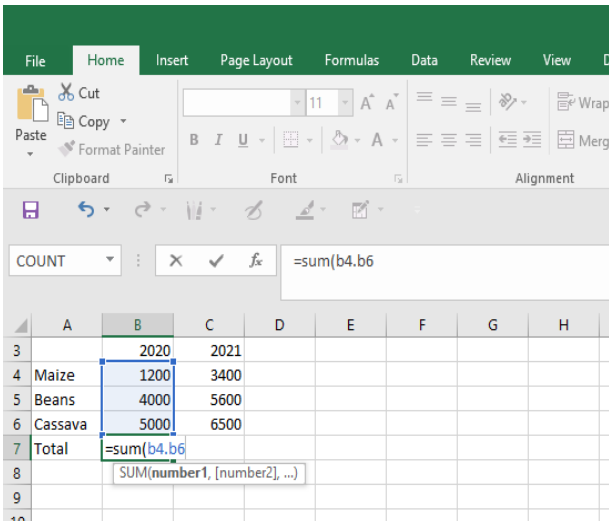
Example Summing Number: Using highlighting technique

Step 1: Create desired Worksheet
Step 2: Position Cursor where the formula will be inserted
Step 3: Press **=** sign
Step 4: Type desired function **sum**
Step 5: Open blanket
Step 6: Highlight desired data range and close blanket
Step 7: Press return/enter key



Example Summing Number: Using typing cell address method

Step 1: Create desired Worksheet
Step 2: Position Cursor where the formula will be inserted
Step 3: Press = sign
Step 4: Type desired function **sum**
Step 5: Open bracket
Step 6: type cell address for starting data
Step 7: type a **dot** or **full colon** and then type the cell address for the ending data
Step 8: Close bracket and then press enter key



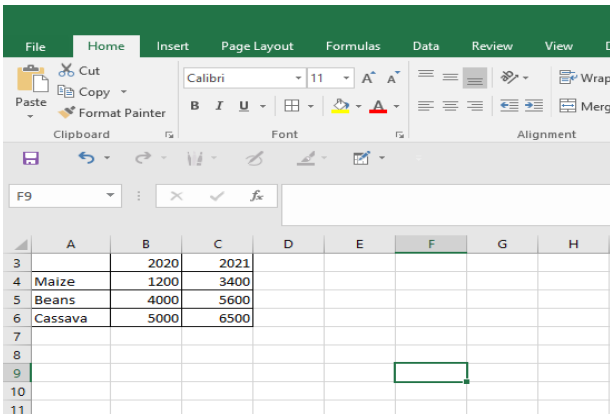
NB: Use the following inbuilt functions to perform simple statistical tasks

- **(i)** **Average** to get mean of a range of values
- **(ii)** **Max** to get maximum of a range of values
- **(iii)** **Min** to get minimum of a range of values
- **(iv)** **Count** to get the total numbers in a range of values

4.10 Changing Columns and Row Size width

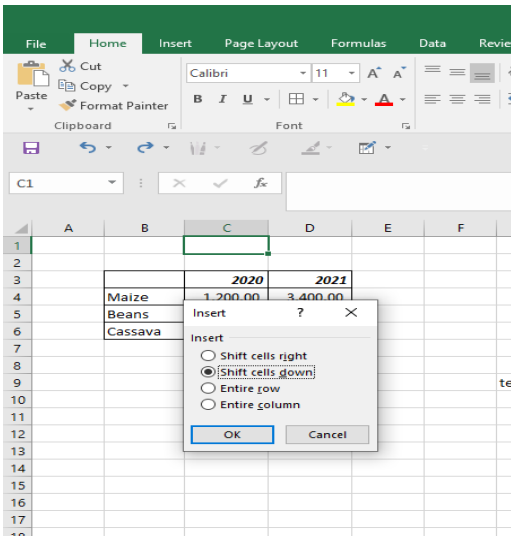
Step 1: Position cursor at a beginning of a desired column or row
Step 2: Drag to resize accordingly

Alternatively, position cursor at the beginning of a column and then double-click. The column will be resized to the width-size of the longest data entry in that column



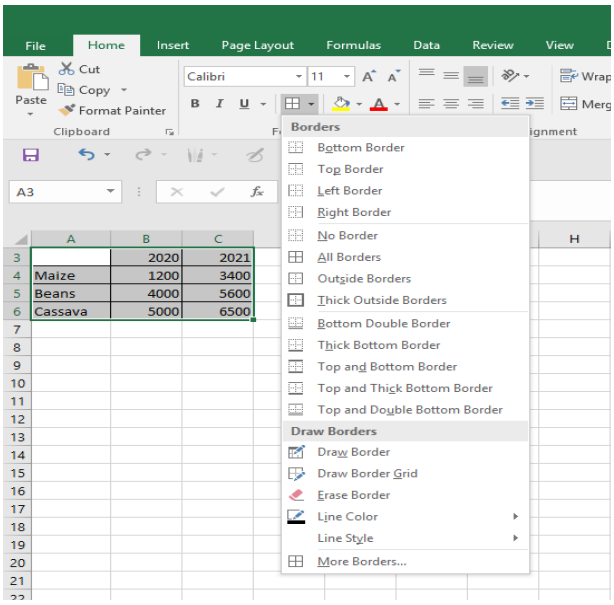
4.11 Inserting Blank Rows and Blank Columns

Step 1: Position cursor at a desired location (row or column)
Step 2: Right click mouse button
Step 3: Select desired option (row or column)



4.12 Applying Borders to Worksheet

Step 1: Select desired text
Step 2: Sect desired borders from border icon



4.13 Applying Basic Format such as bold, italic, underline, bullets, numbering

Step 1: Highlight (Select) desired text
Step 2: Click on desired feature

4.14 Applying number formatting with commas and decimal

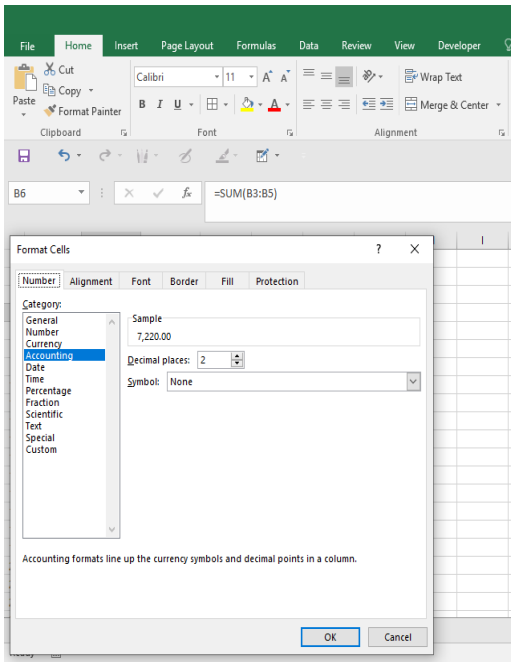
Step 1: Select desired cell or range of cells
Step 2: Click desired number format like commas and decimal

	2020	2021
Maize	1,200.00	3,400.00
Beans	4,000.00	5,600.00
Cassava	7,220.00	11,021.00

Alternative approach

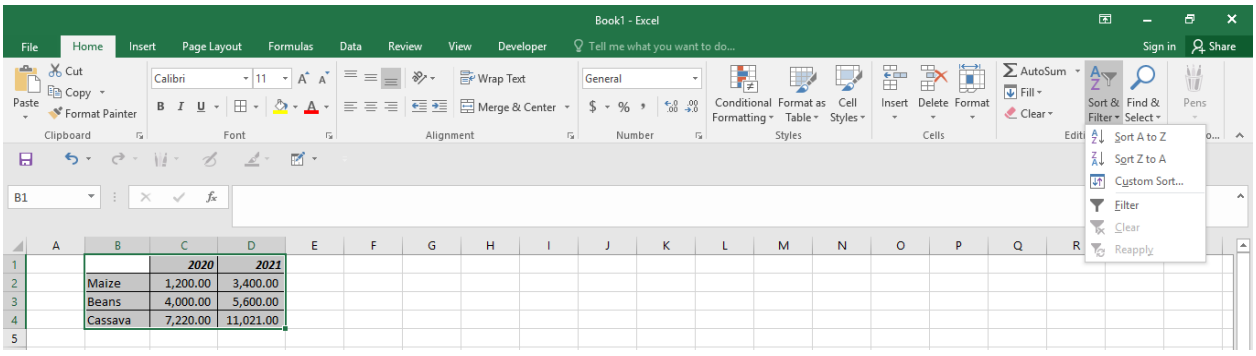
4.15 Applying Font Cell Format

Step 1: Select desired cell or range of cells
Step 2: Right click right mouse button,
Step 3: Select relevant format cell



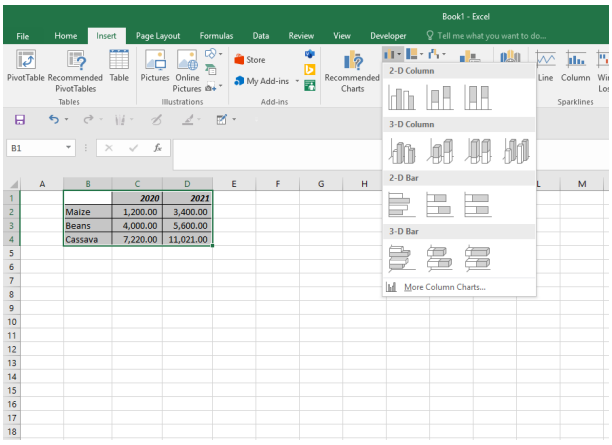
4.16 Sorting Data in a Worksheet

Step 1: Select desired worksheet
Step 2: Click on Sort icon
Step 3: Select Sorting order or customize sort by specifying the column to sort with



4.17 Inserting Charts in a Worksheet

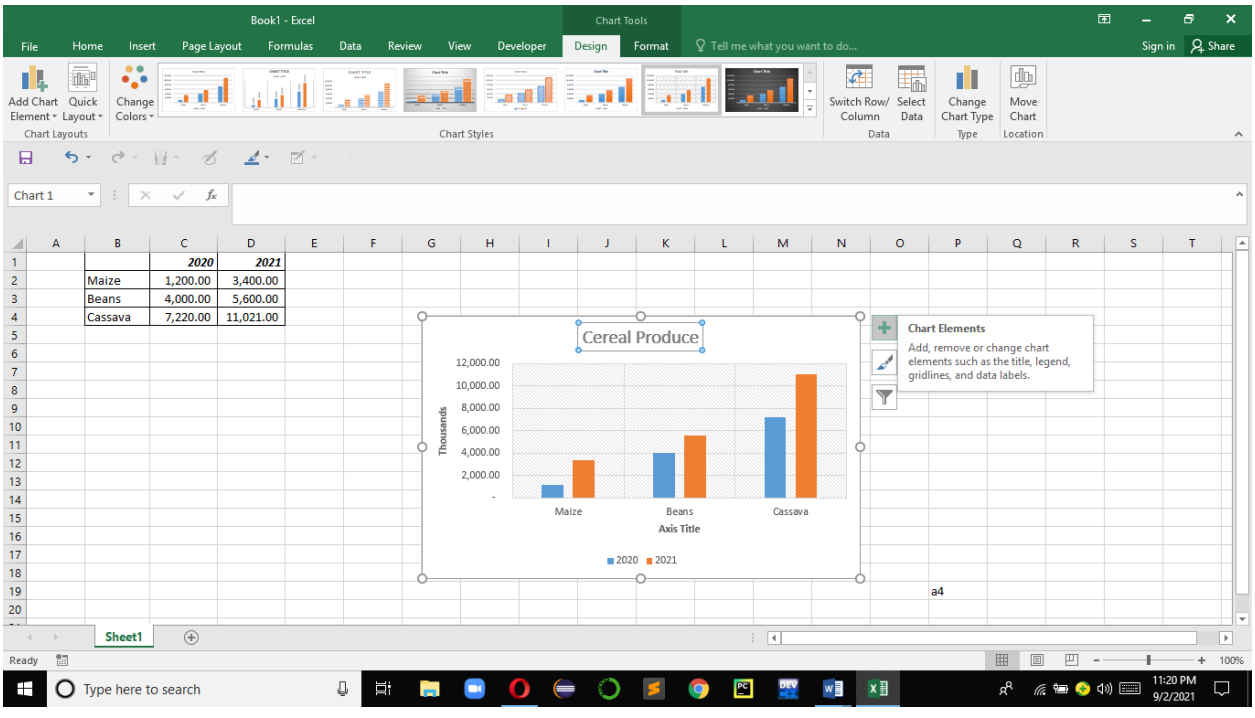
Step 1: Select desired range of worksheet
Step 2: Click Insert
Step 3: Select desired chart e.g., Bar, Pie, Line



4.18 Format Chart

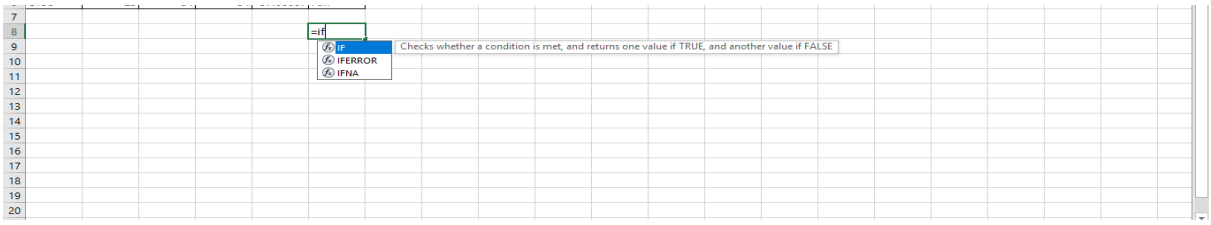
Step 1: Select created chart
Step 2: Select chart elements
Step 3: Type chart elements

- Add title and axis labels
- Changing the axis range
- Changing the chart styles
- Add Legends and values



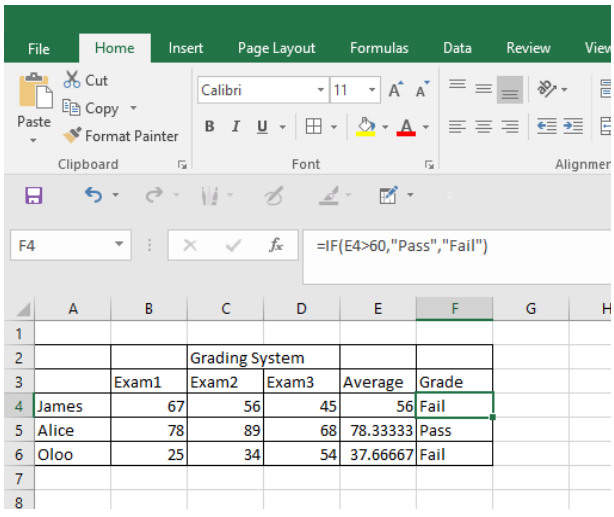
4.19 Decision Analysis

We can perform simple data analysis using if function. The if function checks whether the condition is true, if the condition is true then a relevant message for true is displayed otherwise a relevant message for the false condition is displayed.



Example: Assume we got a list of students marks for three different exams. The pass mark is 60 %.

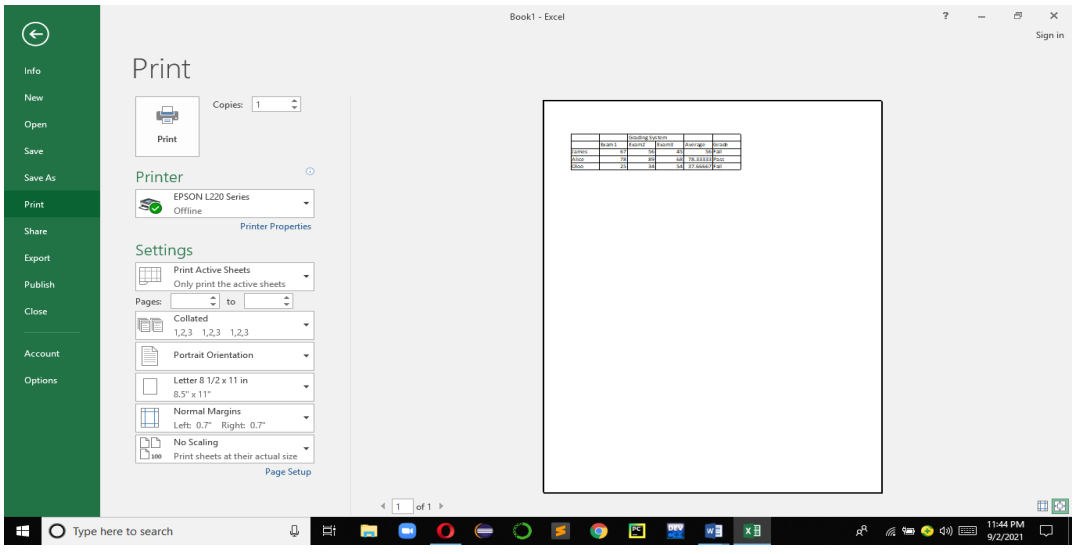
Thus, to perform simple decision analysis using if function, we proceed as follows:
Step 1: Position cursor at desired location
Step 2: type =
Step 3: type if (
Step 4: Type desired formular e.g., E4>60,
Step 5: Type "pass",
Step 6: Type "Fail")



	A	B	C	D	E	F
1						
2			Grading System			
3		Exam1	Exam2	Exam3	Average	Grade
4	James	67	56	45	56	Fail
5	Alice	78	89	68	78.33333	Pass
6	Oloo	25	34	54	37.66667	Fail
7						
8						

4.20 Printing Worksheet

Step 1: Select desired worksheet
Step 2: Click File
Step 3: Select desired worksheet format



4.21 Learning Activities

Open a new worksheet

Required

(i) Identify cells, and worksheets, and reference cells and worksheets

(ii) Create a new worksheet using data information for the current certificate course enrolled. The worksheet should both text, numbers, and date.

(iii) In that worksheet show how to compute the following statistical tasks
   a. Adding
   b. Averaging
   c. Formatting with commas
   d. Formatting with percent (%)
   e. Formatting with date

(iv) Save your works with any name of your choice

(v) Retrieve your worksheet and perform the following tasks
   a. Change row height and column width
   b. Introduce borders and shading in your worksheet
   c. Perform decision analysis using if function
   d. Create two charts, bar and pie chart and format them accordingly

4.22 Self-Assessment Questions and Activities

1. What is the importance of worksheets?
2. How can worksheets be used in enhancing the performance of a freight and logistics company?
3. Identify the various parts of the spreadsheet environment.

4.23 References

- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.
- Vermaat, Misty E. (2016). Microsoft Word 2016: Introductory. Cengage Learning.
- Sandra Cable, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks (2019), Shelly Cashman Series Microsoft® Office 365 & Excel 2019 Comprehensive, 1st Edition, eBook

5.0 ORGANIZING DATA IN A DATABASE

5.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Identify the roles of databases in an organization
ii. Create a database table
iii. Create a database form
iv. Create a database query
v. Create a database reports

5.2 Introduction

The topic introduces to the student the art of organizing data in a database. The topic covers, introduction to role of database; create, modify table, sort, and filter records in a table; create queries; calculate, sort and filter data in a query; create/work with data on forms; create reports, add controls to a report, enhance the appearance on report, prepare report for print, organize report information, format reports. The unit module should emphasize the concept of using databases to maintain and analyse records in an organization.

5.3 Overview of Database

Microsoft Access is a Database Management System (DBMS) from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software development tools.

Importance of Database

- It stores data
- Allows you to link related information easily.
- It can also import or link directly to data stored in other applications and databases.
- You can export data to and import data from word processing files, spreadsheets, or database files directly.

Creating Ms Access

- **Database Creation** - Create your Microsoft Access database and specify what kind of data you will be storing.
- **Data Input** - After your database is created, the data of every business day can be entered into the Access database.
- **Query** - This is a fancy term to basically describe the process of retrieving information from the database.
- **Report** (optional) - Information from the database is organized in a nice presentation that can be printed in an Access Report.

Table

Table is an object that is used to define and store data. When you create a new table, Access asks you to define fields which is also known as column headings

- Each field must have a unique name, and data type.
- Tables contain fields or columns that store different kinds of data, such as a name or an address, and records or rows that collect all the information about a particular instance of the subject, such as all the information about a customer or employee etc.
- You can define a primary key, one or more fields that have a unique value for each record, and one or more indexes on each table to help retrieve your data more quickly.

Query

An object that provides a custom view of data from one or more tables. Queries are a way of searching for and compiling data from one or more tables.

- Running a query is like asking a detailed question of your database.
- When you build a query in Access, you are defining specific search conditions to find exactly the data you want.
- In Access, you can use the graphical query by example facility or you can write Structured Query Language (SQL) statements to create your queries.
- You can define queries to Select, Update, Insert, or Delete data.
- You can also define queries that create new tables from data in one or more existing tables.

Form

- Form is an object in a desktop database designed primarily for data input or display or for control of application execution. You use forms to customize the presentation of data that your application extracts from queries or tables.
- Forms are used for entering, modifying, and viewing records.
- The reason forms are used so often is that they are an easy way to guide people toward entering data correctly.

- When you enter information into a form in Access, the data goes exactly where the database designer wants it to go in one or more related tables.

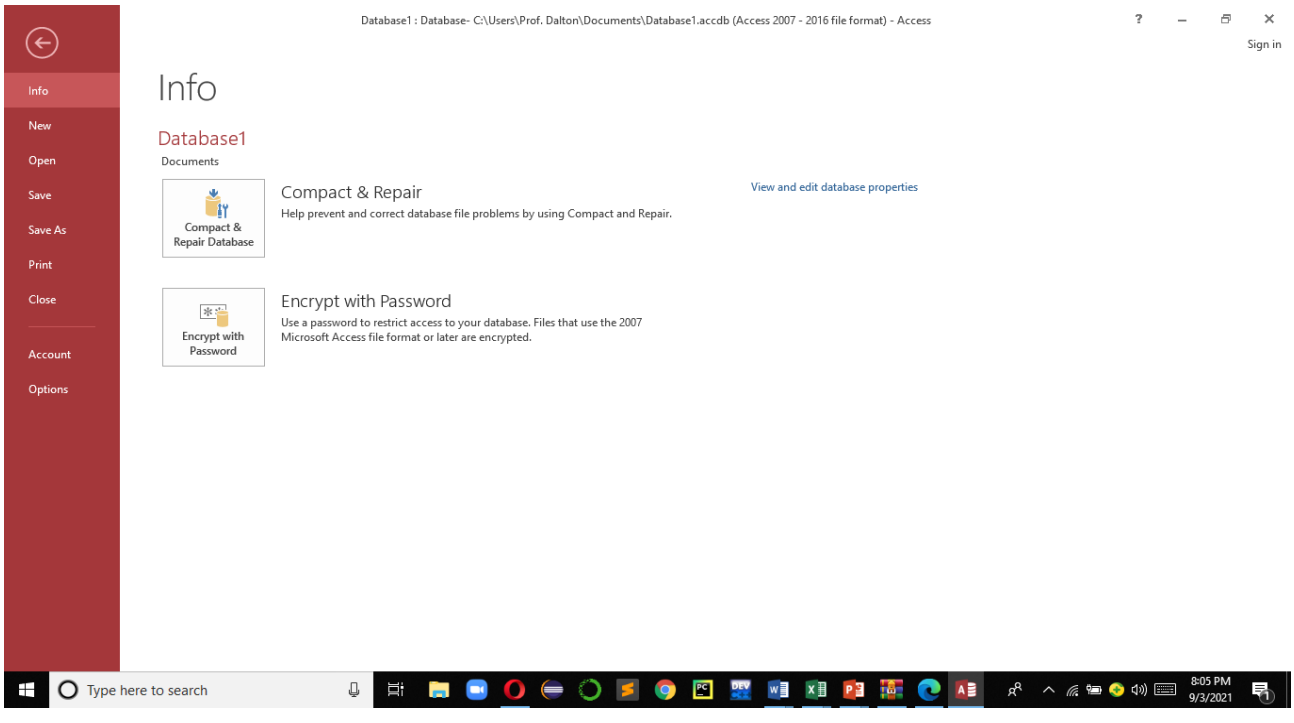
Report

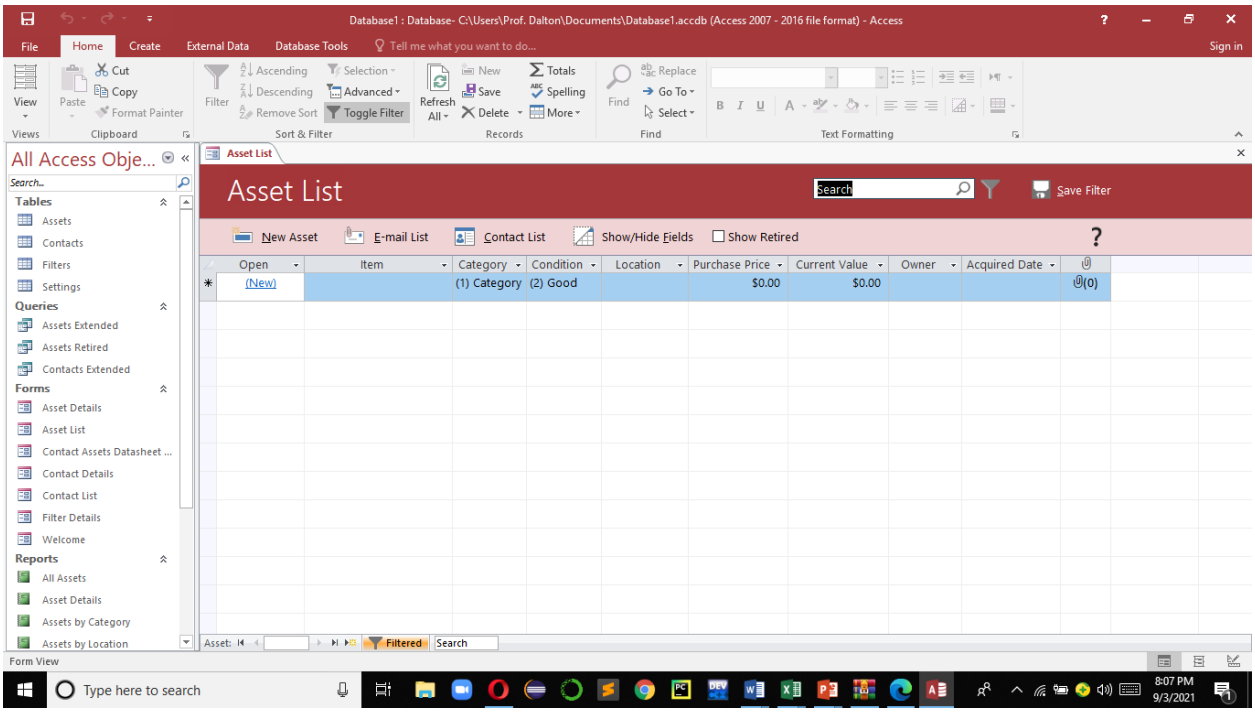
Report is an object in desktop databases designed for formatting, calculating, printing, and summarizing selected data.

- You can view a report on your screen before you print it.
- If forms are for input purposes, then reports are for output.
- Anything you plan to print deserves a report, whether it is a list of names and addresses, a financial summary for a period, or a set of mailing labels.
- Reports are useful because they allow you to present components of your database in an easy-to-read format.
- You can even customize a report's appearance to make it visually appealing.
- Access offers you the ability to create a report from any table or query

5.4 Starting Ms Access

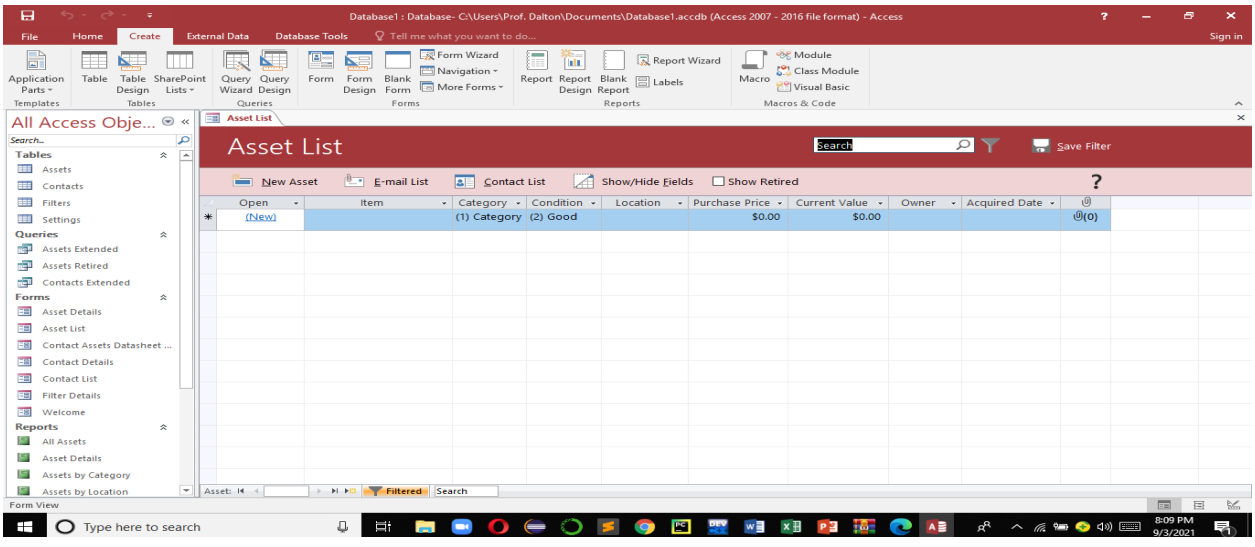
Step 1: Click File

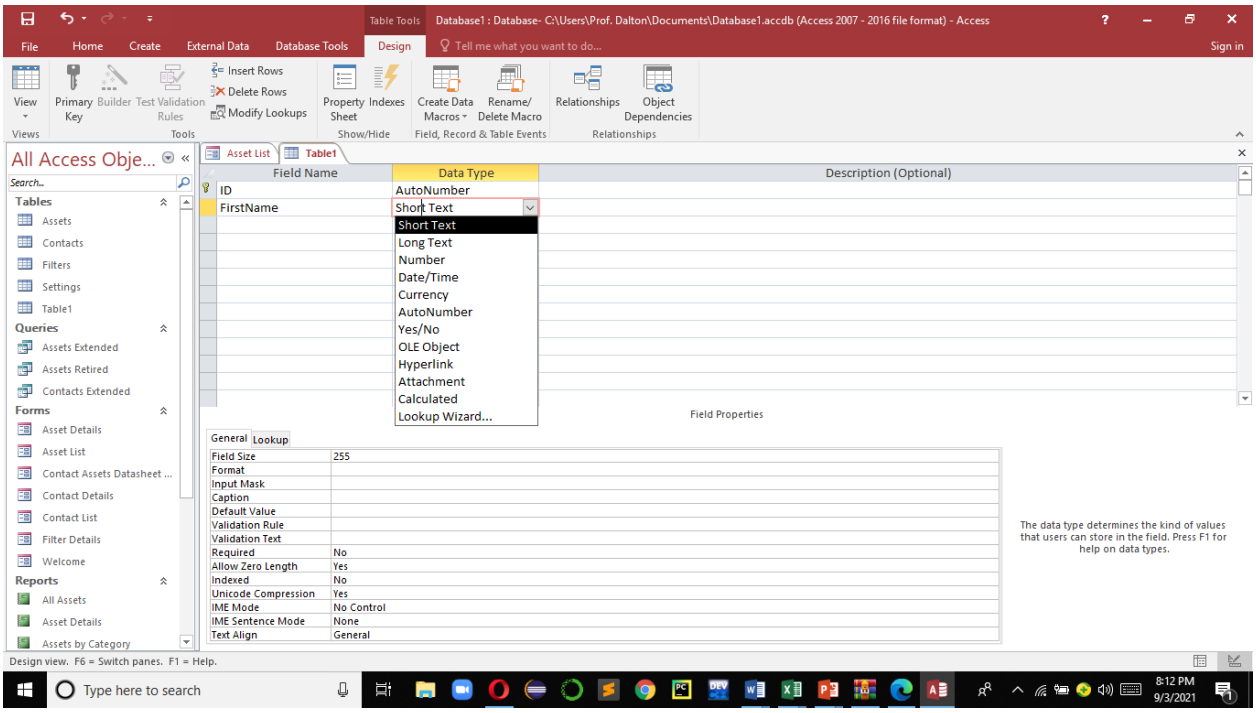




5.5 Creating Database Table

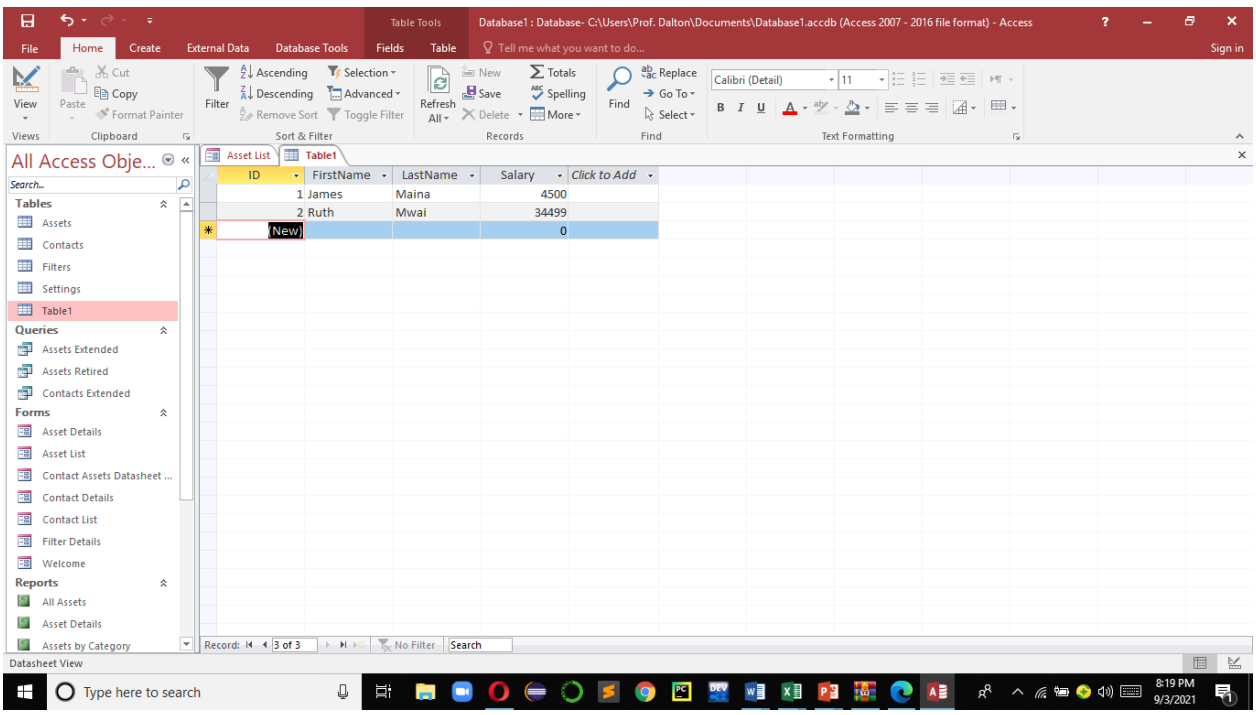
Step 1: Click Create
Step 2: Click Table Design
Step 3: Provide a suitable name for the table
Step 4: Enter Fieldnames, and also specify the Data Type





Adding Data in a Table

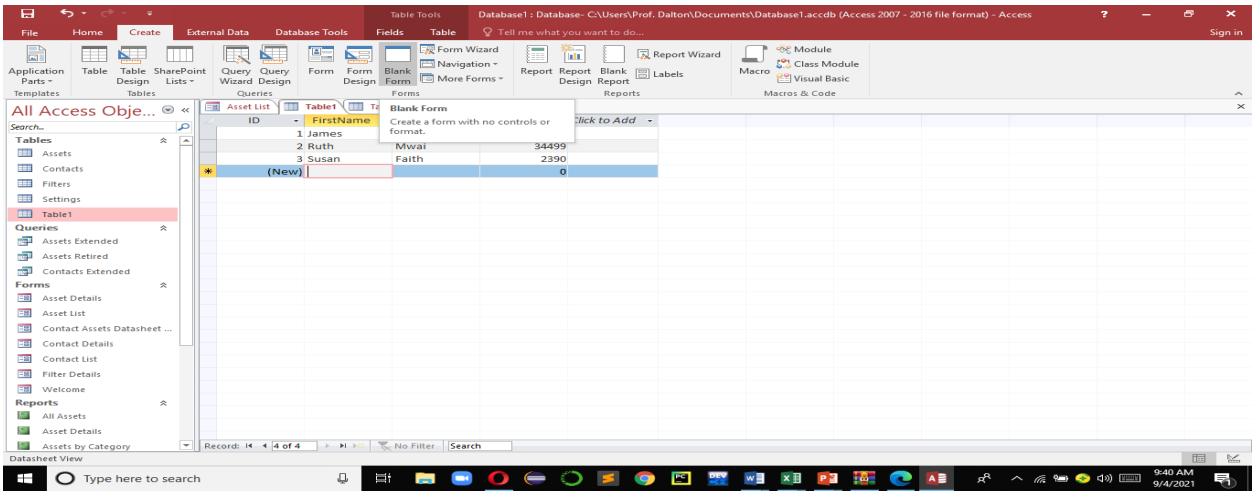
Step 1: Click on the Table
Step 2: From View Click on Datasheet View
Step 3: Add Data
Step 4: Move to the Next Field using Tab Key
Step 5: Press Tab key while at the end of last field in order to generate a new blank row

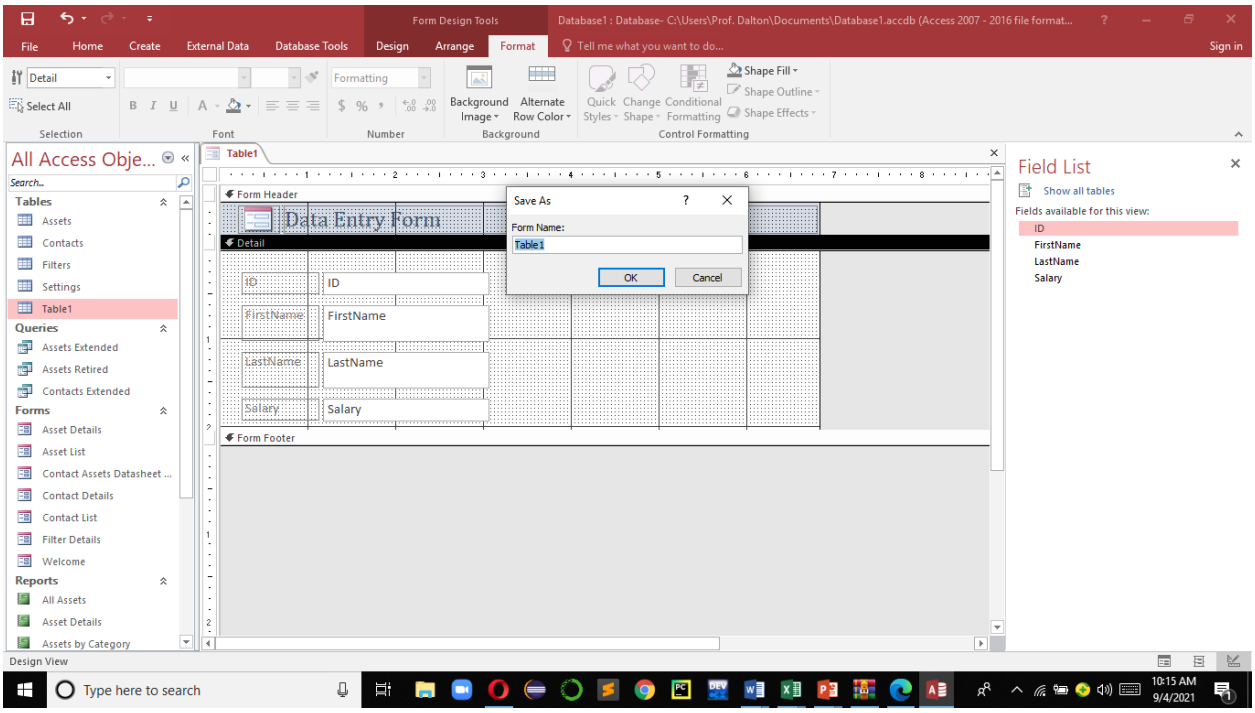


5.6 Creating Database Form

Creating **forms** for your database can make entering data more convenient. When you create a form, you can design it in a way that works with your database and that makes sense to you.

Step 1: Select desired Table
Step 2: Click Create
Step 3: Click Form
Step 4: Form will be Created and opened in Layout view
Step 5: Click Save from Quick Access Toolbar. Type desired name
Step 6: Click Ok.





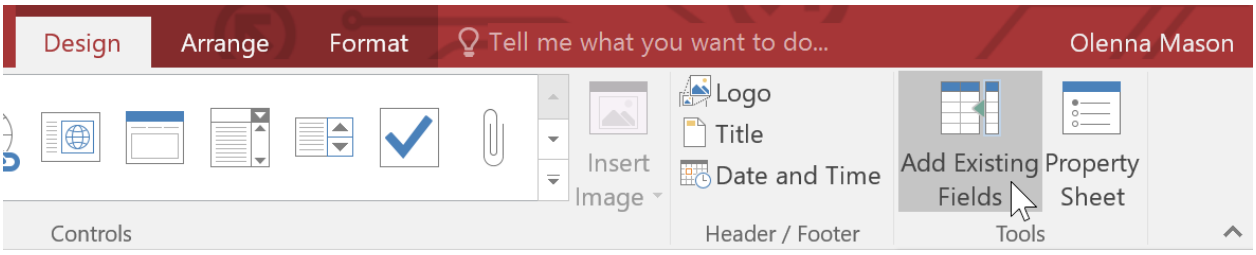
Adding additional Fields to a Form

When you use the **Form** command on an existing

table, all of the fields from the table are included in the form. However, if you later add additional fields to the table, these fields will **not** automatically show up in existing forms. In situations like this, you can **add** additional fields to a form.

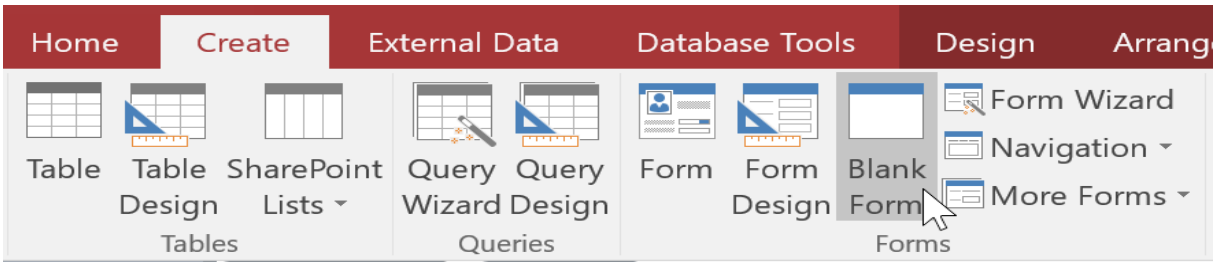
To Add a Field to a Form

Step 1: Click **Design**
Step 2: Locate the **Tools** group on the right side of the Ribbon.
Step 3: Click the **Add Existing Fields** command.



Adding Fields to Blank Form

Step 1: Click Create
Step 2: Click Form
Step 3: Click Blank Form
Step 4: Follow the above procedures already discussed



To add a Field from a different Table

You can also add fields from **different tables** in your database to the form.
From the **Field List** pane, click **Show All Tables**.
Click the plus sign **+** next to the table that contains the field you want to add, then double-click the desired field. The new field will be added.

5.7 Adding Design Controls

Design controls set restrictions on the fields in your forms. This helps you better control how the data is entered into your forms, which in turn helps keep the database consistent.

Combo boxes

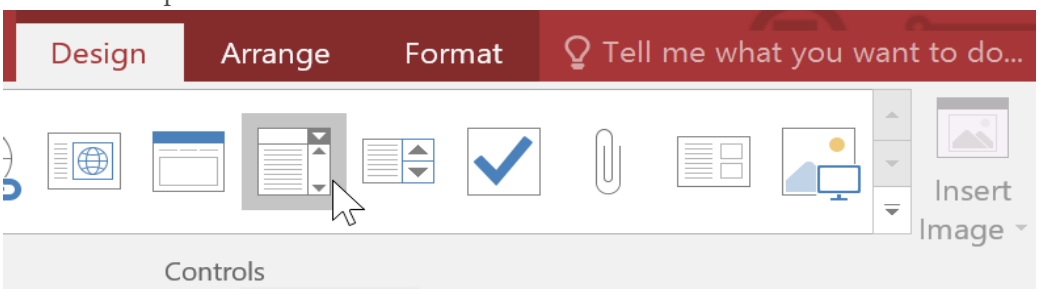
A **combo box** is a drop-down list you can use in your form in place of a field. Combo boxes **limit** the information users can enter by forcing them to select only the **options** you have specified.

Combo boxes are useful for fields that have a limited number of possible valid responses. For instance, you might use a combo box to make sure people only enter a valid U.S. state while entering an address, or that they only choose products that already exist in your database while placing an order.

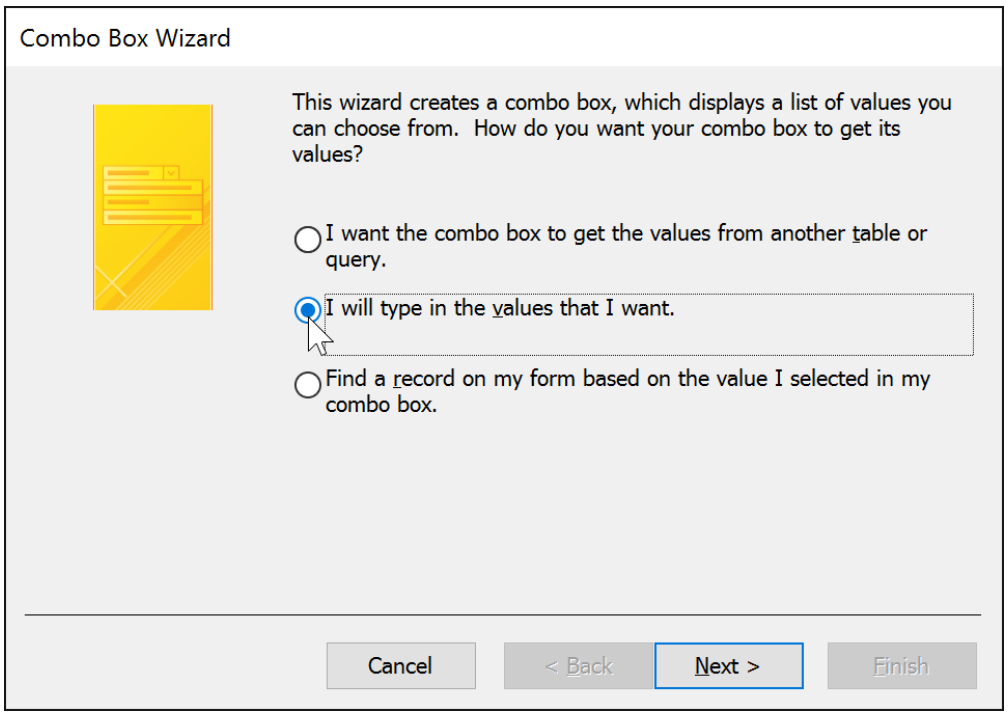
To Create a Combo box

1. In **Form Layout** view, select the **Design** tab, then locate the **Controls** group.

2. Select the **Combo Box** command, which looks like a drop-down list.



3. Select the desired location for the combo box. A line will appear to indicate the location where your combo box will be created.
4. The **Combo Box Wizard** dialog box will appear. Select **I will type in the values that I want**, then click **Next**.

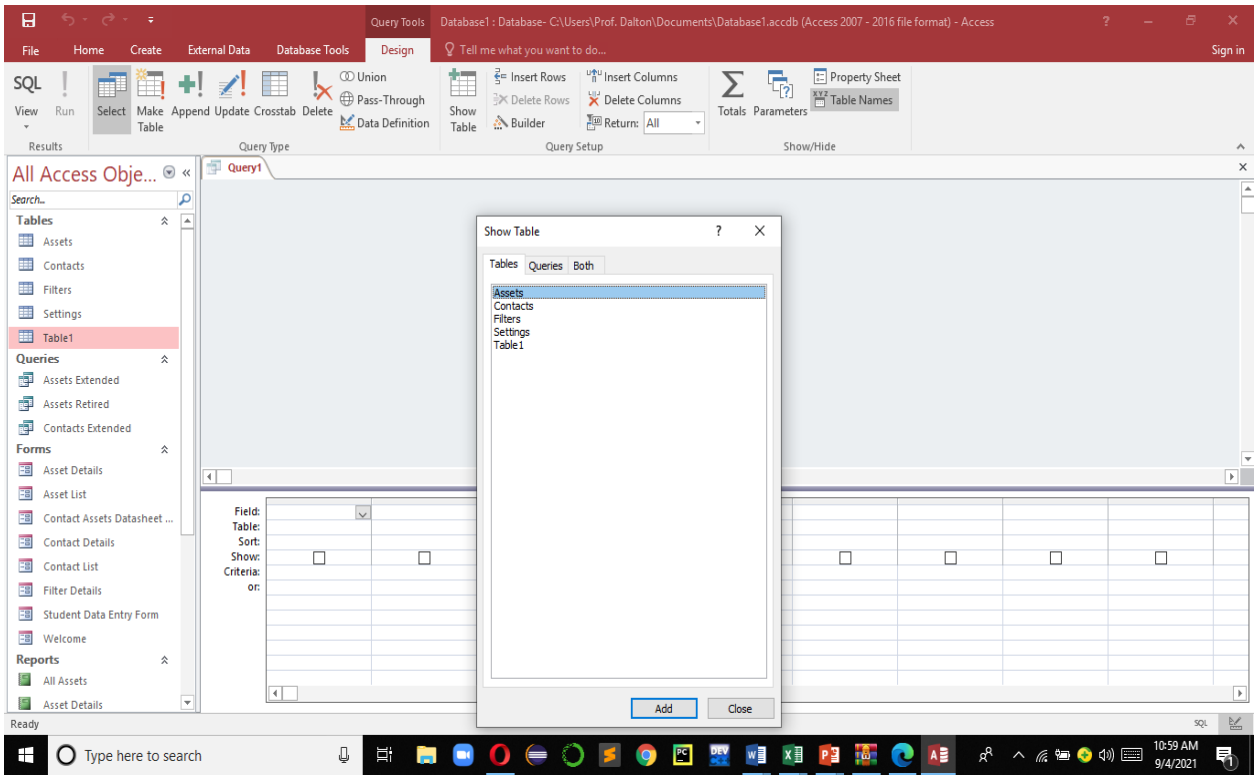


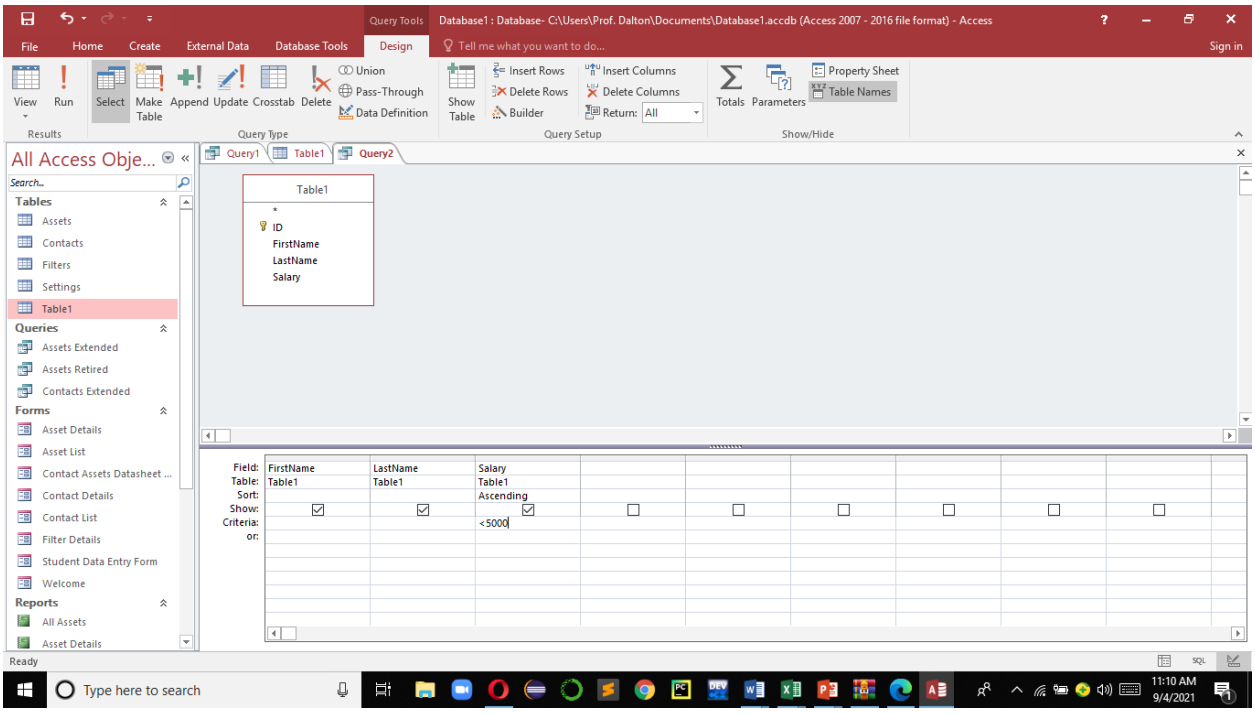
5. Type the choices you want to appear in your drop-down list. Each choice should be on its own row.
6. If necessary, **resize** the column so all of your text is visible. Once you are satisfied with your list, click **Next**.
7. Select **Store that value in this field**, then click the drop-down arrow and select the field where you want selections from your combo box to be recorded. After making your selection, click **Next**.
8. Enter the **label**—or **name**—that will appear next to your combo box. Generally, it's a good idea to use the name of the field you chose in the previous step.
9. Click Finish. Your combo box will appear on the form. If

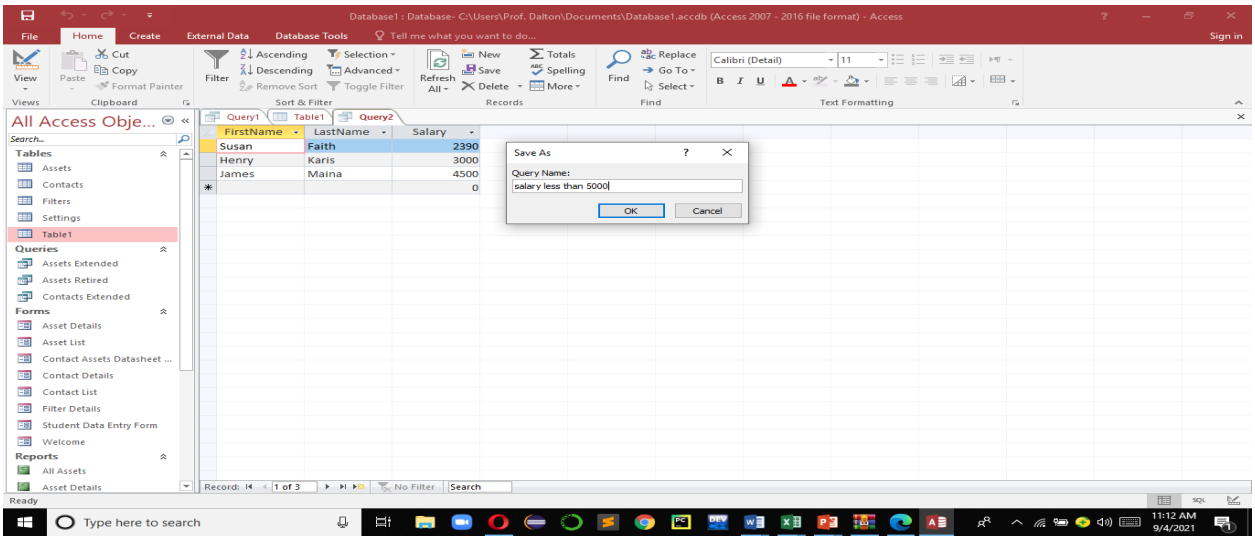
you created your combo box to replace an existing field, you should **delete** the first field. In our example, you might notice that we now have two fields with the same name. These two fields send information to the same place, so we don›t need them both. We›ll **delete** the one without the combo box.

5.8 Creating Database Query

Step 1: Click Create
Step 2: Click Query Wizard
Step 3: Double click Table to base query on
Step 4: Click Close to close that dialog window
Step 5: Double click on the fields to be used in the query
Step 6: Under Sort row, click on the cell for the column to base sorting on and select sort method
Step 7: Under Criteria, select the cell for the column to base criteria. Type desired criteria
Step 8: Click Run Query
Step 9: Save Query with suitable name

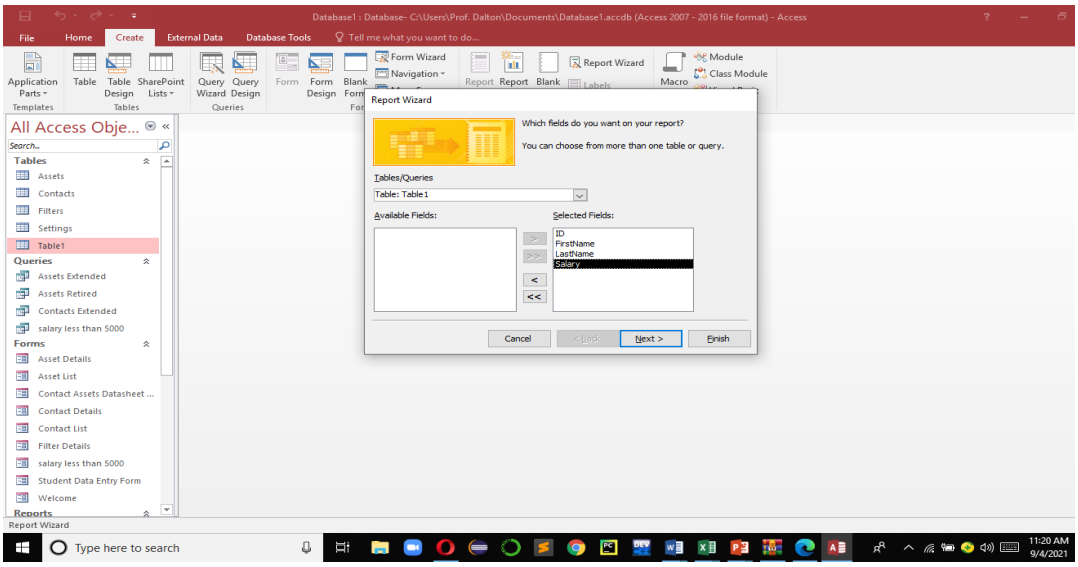


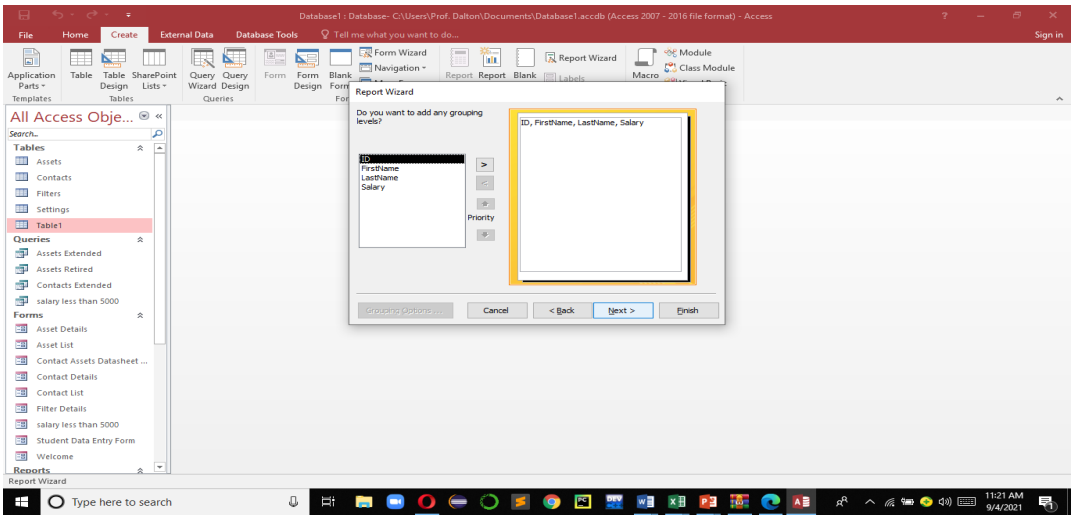


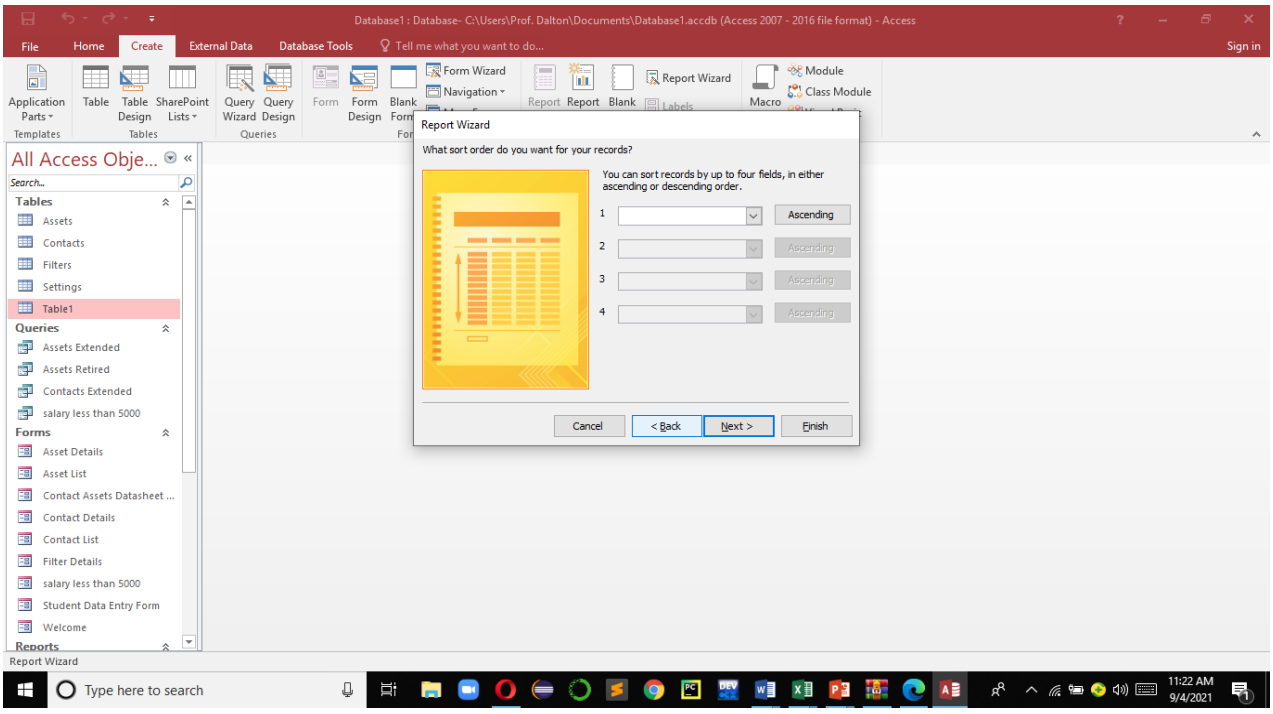


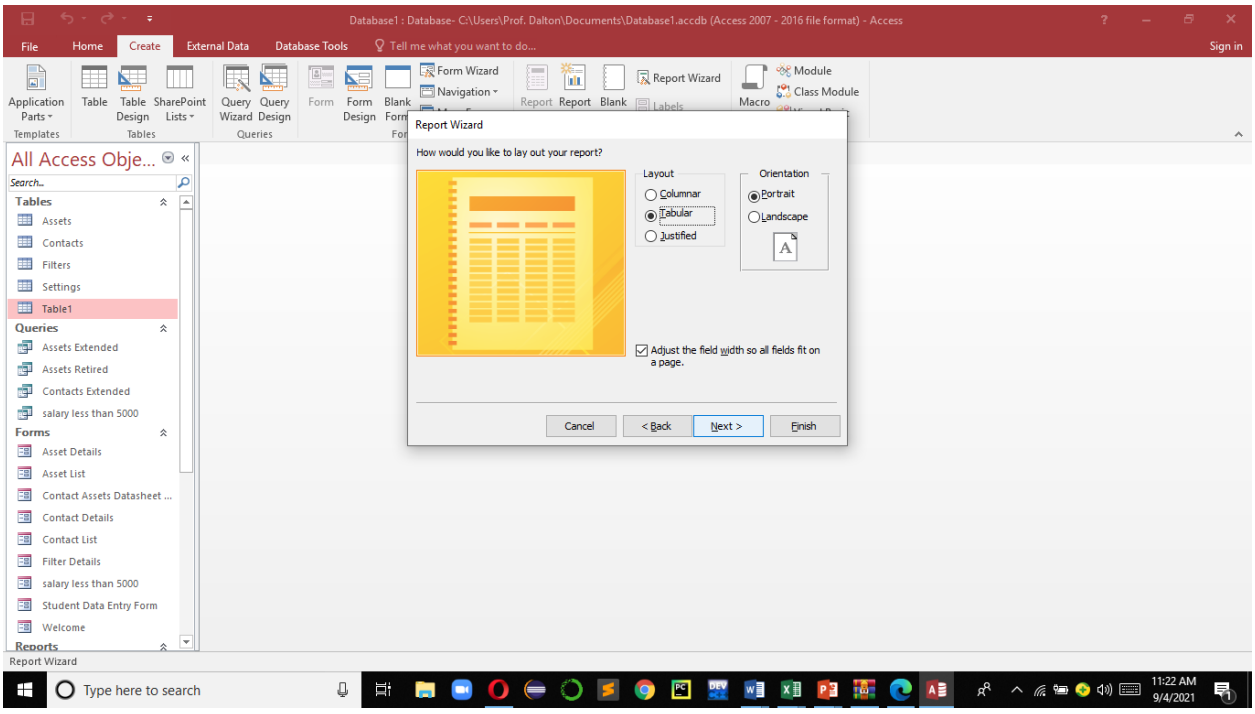
5.9 Creating Report

Step 1: Click Create
Step 2: Click Report Wizard
Step 3: Select a table or query, double-click each field in **Available Fields** you want to add it to the report, and select **Next**.
Step 4: Double-click the field you want to group by and select **Next**.
Step 5: Complete the rest of the wizard screens and select **Finish**.


Report Wizard
Which fields do you want on your report?
You can choose from more than one table or query.
Tables/Queries
Table: Table1
Available Fields:
Selected Fields:
ID
FirstName
LastName
Salary
Cancel
< Back
Next >
Finish


Report Wizard
Do you want to add any grouping levels?
ID, FirstName, LastName, Salary
Priority
Cancel
< Back
Next >
Finish


Report Wizard
What sort order do you want for your records?
You can sort records by up to four fields, in either ascending or descending order.
Ascending
Cancel
< Back
Next >
Finish



5.10 Learning Activities

Identify some statistical information from your organization. Using the information for the following tasks:

Required:

1. Open a database application, and identify fields and records
2. Based on organizational statistical data:
   (i) Create a Database Table
   (ii) Create a Database Form
   (iii) Add 3 more fields in the Table. One of the field should be a kind of combo box
   (iv) Modify Your Form to include the added Fields
   (v) Create three different types of queries based on your Database Table
   (vi) Create a Report based on your Database Table

5.11 Self-Assessment Questions and Activities

1. Identify and describe the various parts of table
2. Differentiate between a field and a record
3. Why do we need to store data in a database?

5.12 References

- Sandra Cable, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks (2019), Shelly Cashman Series Microsoft® Office 365 & Access 2019 Comprehensive, 1st Edition, eBook
- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.

6.0 USING POWERPOINT PRESENTATION

6.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Identify the roles of presentation software's in an organization
ii. Create a presentation
iii. Formatting a presentation
iv. Running the presentation.

6.2 Introduction

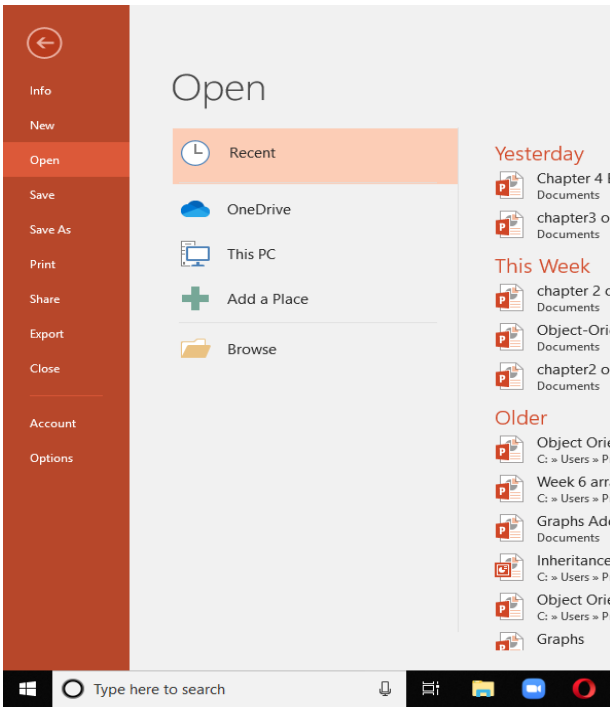
This topic introduces the students to the art of presenting materials through the use of multimedia that can help to improve the audience's focus. PowerPoints allows the use of images, audio, and video in order to have a greater visual impact. The topic covers, introduction to the role of PowerPoint, creating new presentation; adding, copying, pasting, magnifying, and editing slides; applying themes and background to a presentation; inserting, modifying clip Art/Pictures/shapes/objects; inserting, updating, formatting chart; formatting text, bullets and numbering; slide transition effects and timing; animation effects; slide show, change slide setup, printing and running slide show; Navigate through slides during show. Emphasis will be on creating different slides for different type of audiences and organization.

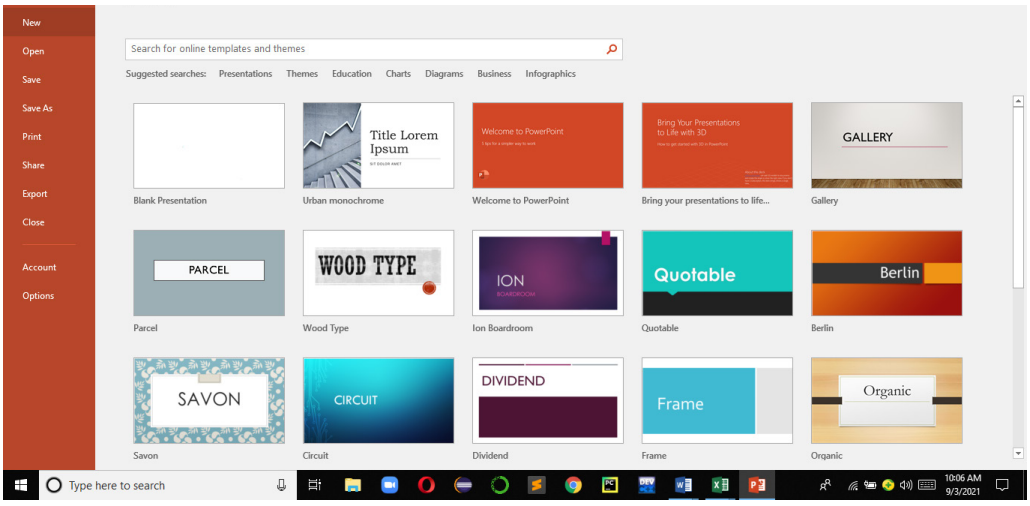
6.3 Overview of PowerPoint Presentation

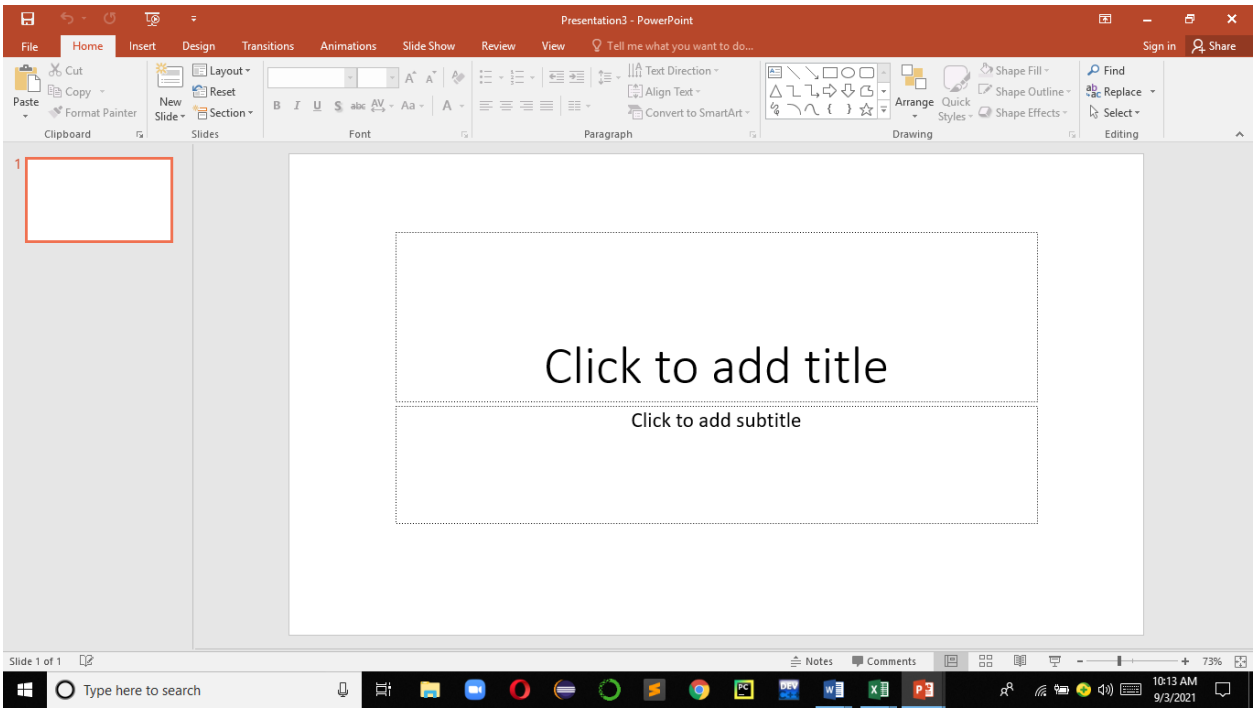
Microsoft PowerPoint is a graphical presentation software package. The package is used for presenting materials through the use of multimedia that can help to improve the audience's focus.

6.4 Creating a New Presentation

Step 1: Click File
Step 2: Click New
Step 3: Double click on **Blank Presentation**
Step 4: A new presentation window opens
Step 5: Type in details for the Title slide

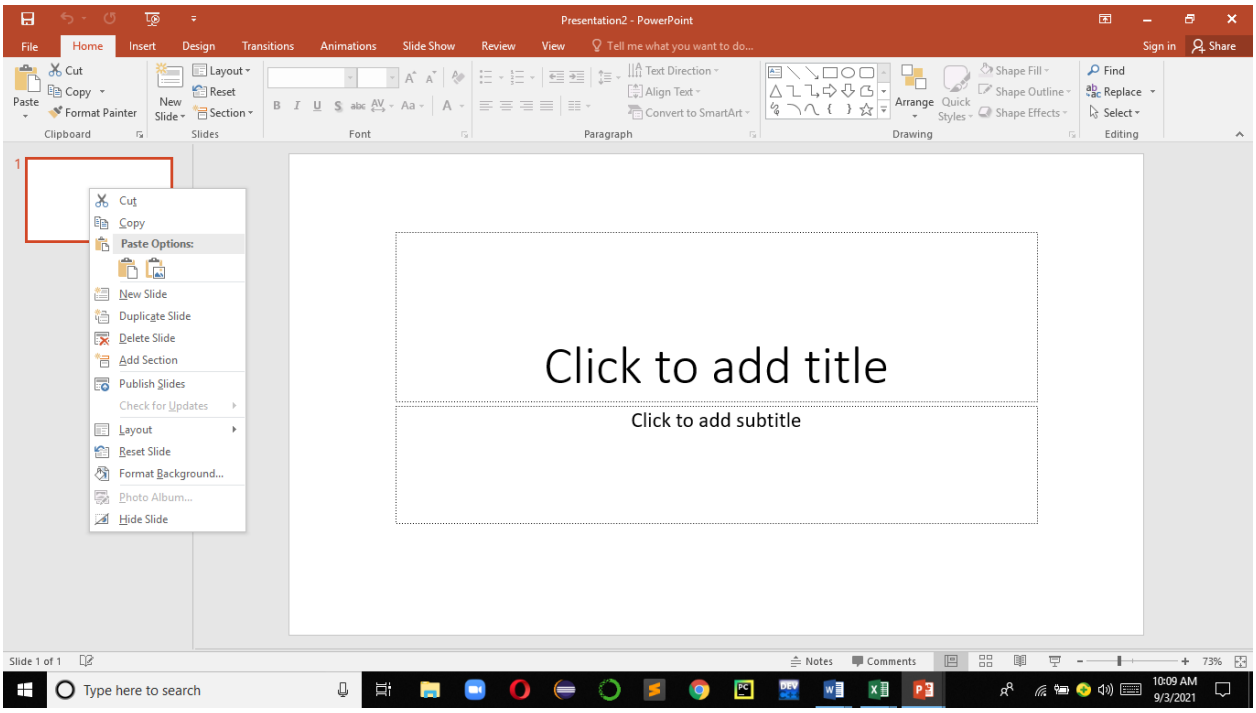






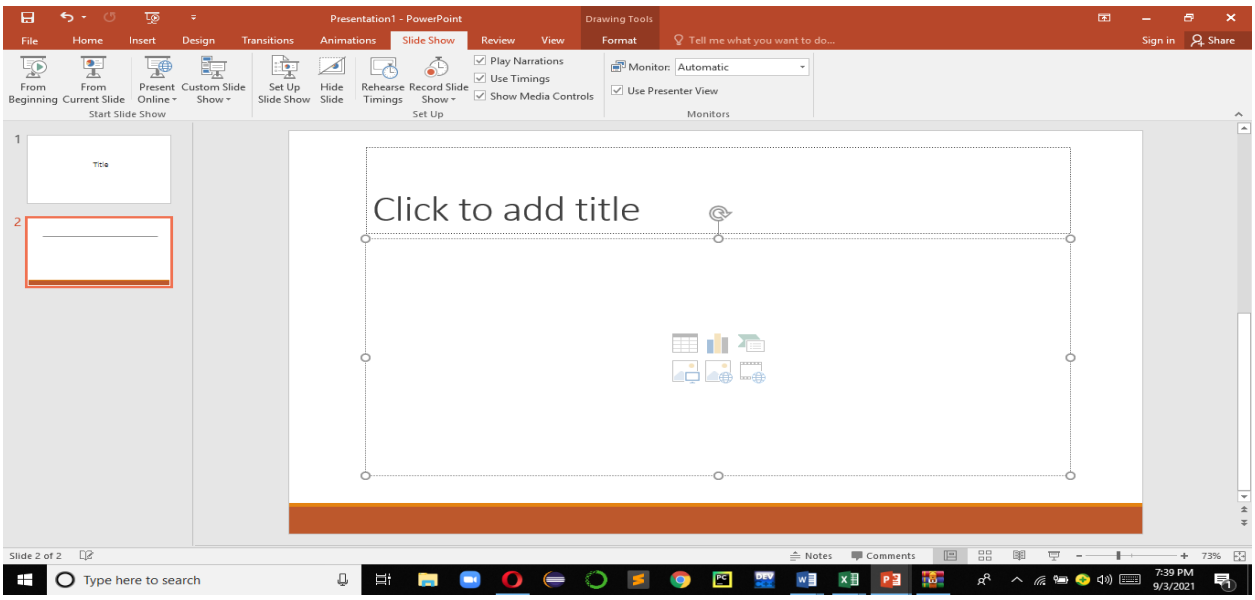
6.5 Adding New Slides to a Presentation

Step 1: Right Click on the Current Slide (or in the Home tab, go the Slides group and click on New Slide
Step 2: Click on New Slide
Step 3: Type or Copy desired text in the slide



6.6 Running a Slide Show

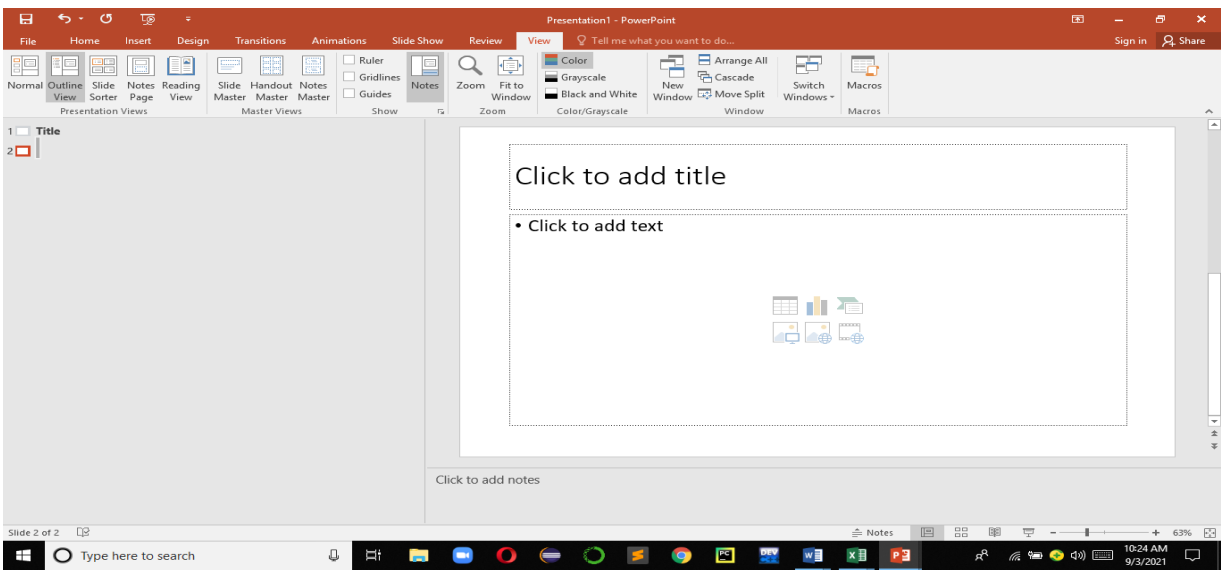
Step 1: Click Slide Show
Step 2: In the Start Slide Show group choose either from beginning, from current slide, broadcast show, custom slide show.



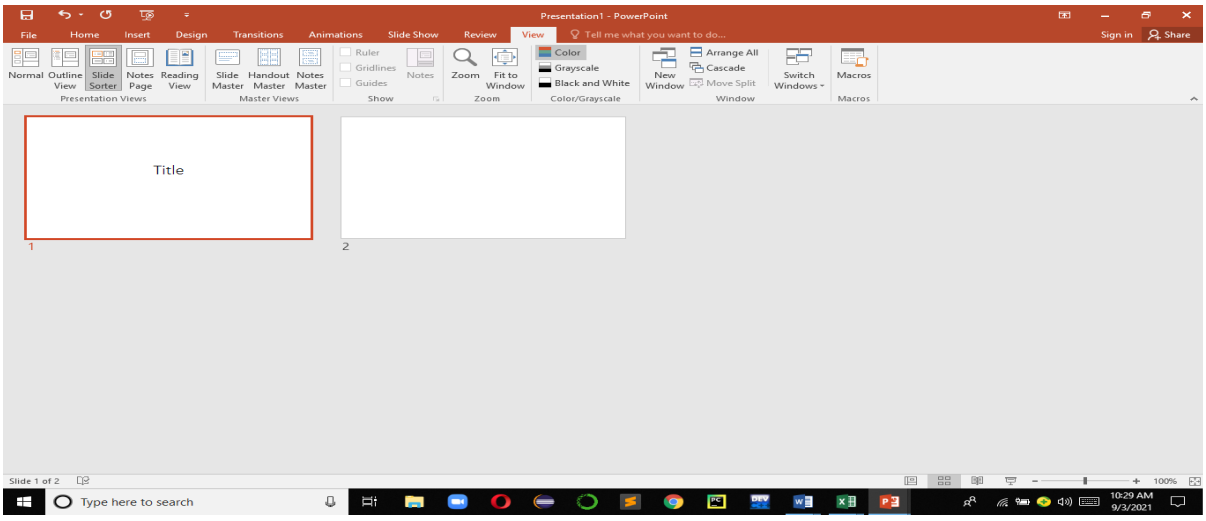
6.7 Presentation Views

There are many views like Normal View, Slide Sorter View, Notes Pages and Reading View.
Normal View is the most common slide view. By default, the presentation one is in normal view. Normal view simultaneously displays the slide, outline, and notes view in their own, allowing you to see everything at once.

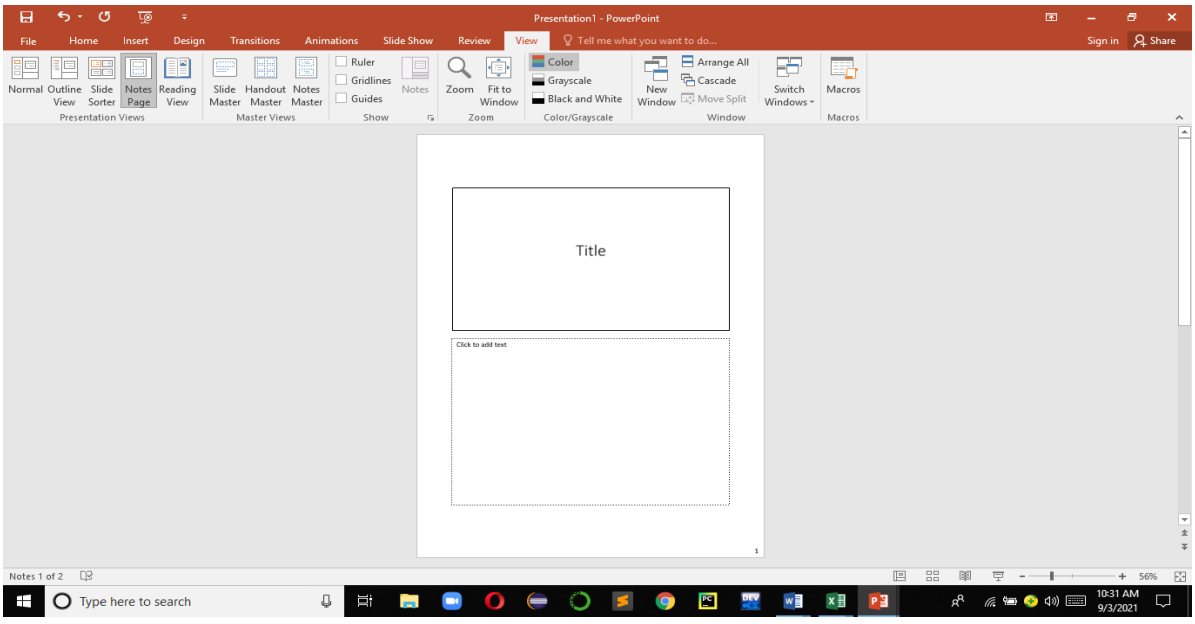
Click on View to access any of the view pane



Slide sorter view shows small versions of all the slides (thumbnails) arranged in horizontal rows. Thumbnails allow for slides to be easily deleted or rearranged quickly.



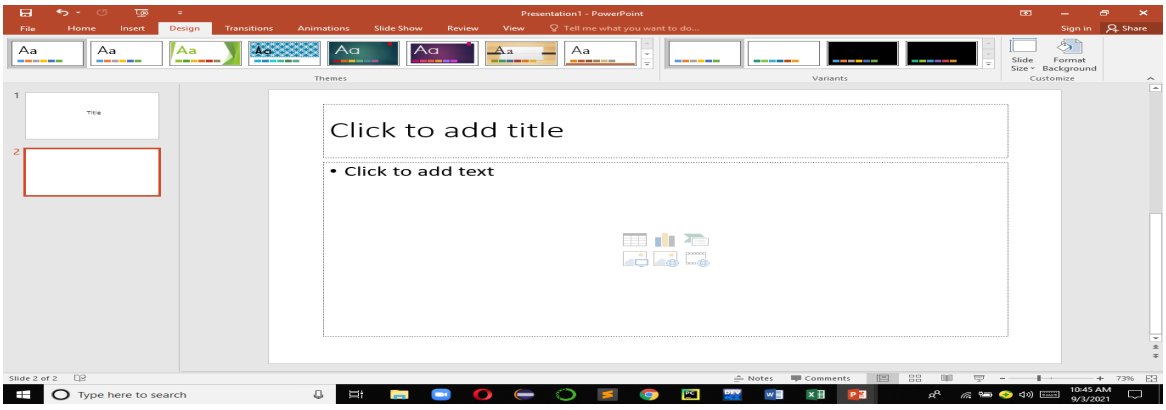
Notes Pages sometime referred to as presenter notes show a small version of the slide with an area below for printed notes. Each slide is created on its own notes page.



Reading View is used to deliver a presentation to a person viewing it on a computer as opposed to viewing it on a large screen. It allows a user to view the presentation not a full-screen slide show view, but in a window with simple controls that make a presentation easy to view.

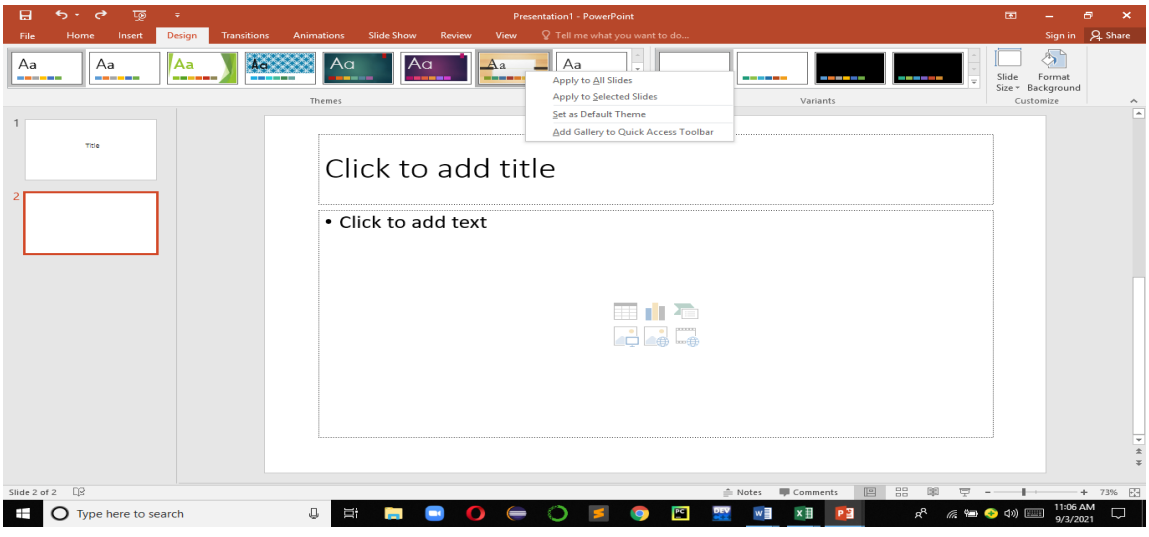
6.8 Applying Themes and Background to a Presentation

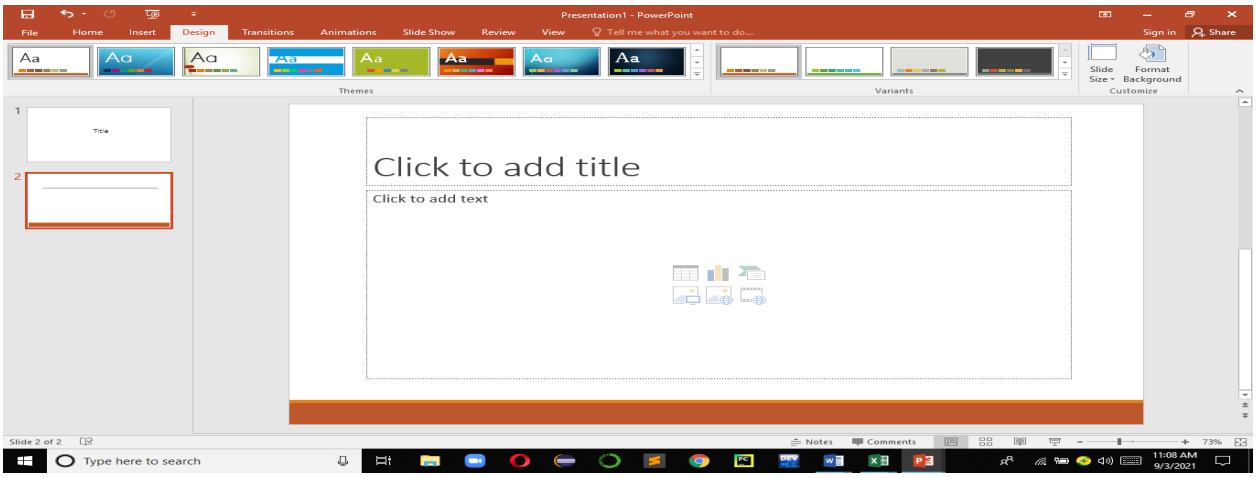
Step 1: Click Design tab
Step 2: Click More button in the Themes group
Step 3: Click the desired design



To Apply a Theme to Selected Slides

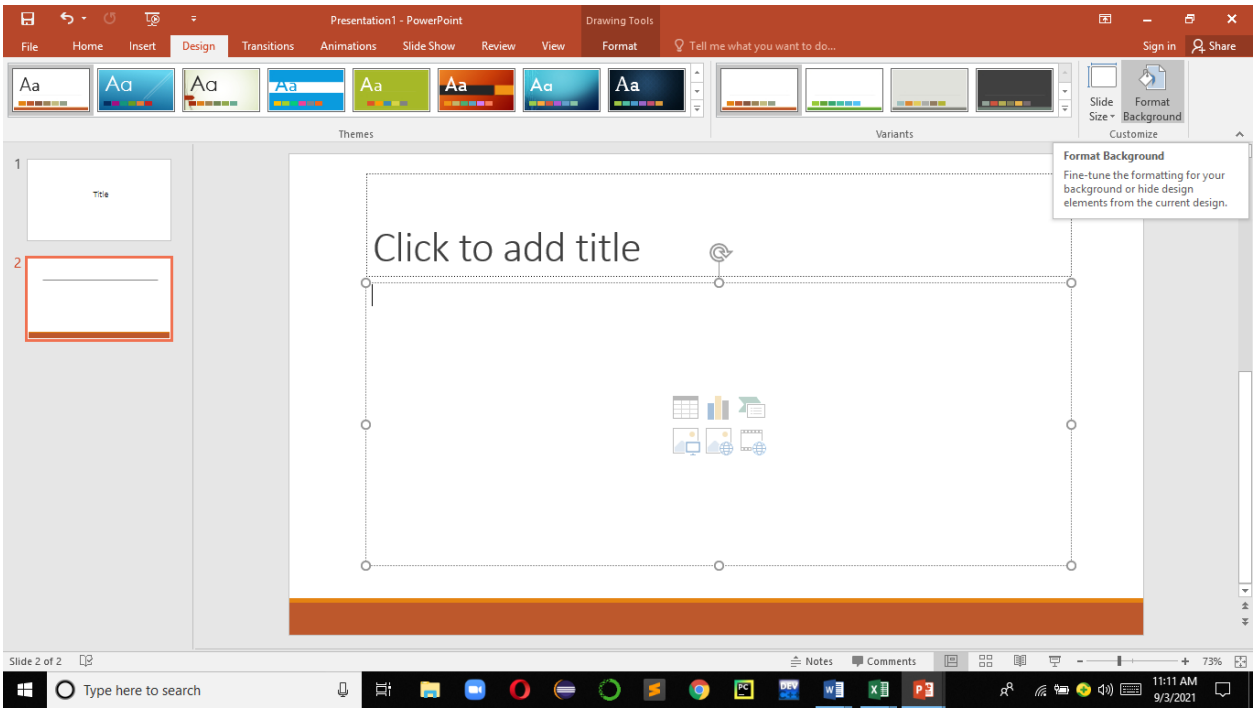
Step 1: Click Slides tab, located in the left pane of the window
Step 2: Hold down the Control key and then click to select the slides to apply the theme
Step 3: Choose Design tab
Step 4: Click More button in the Themes group
Step 5: Right click desired theme. A menu appears
Step 6: Click Apply to Selected Slides





Changing Backgrounds

Step 1: Choose Design tab
Step 2: Click Background Styles
Step 3: Click the desired background



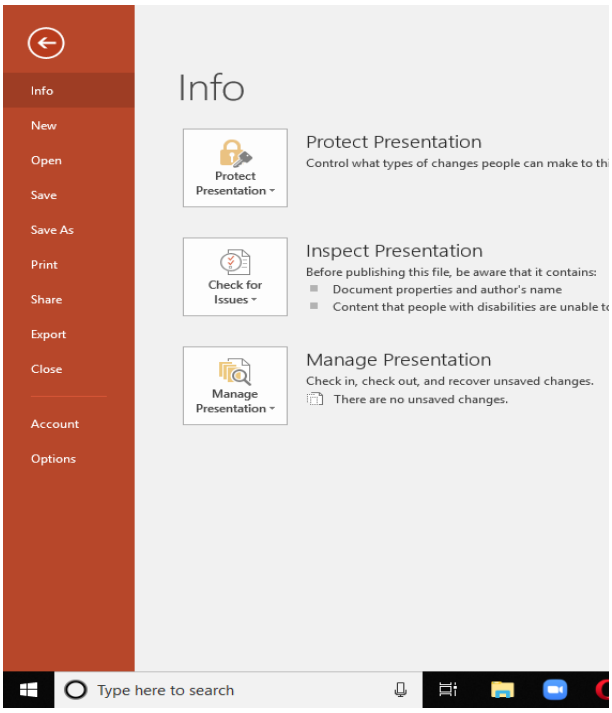
6.9 Copying and Pasting Slides from Different Presentations

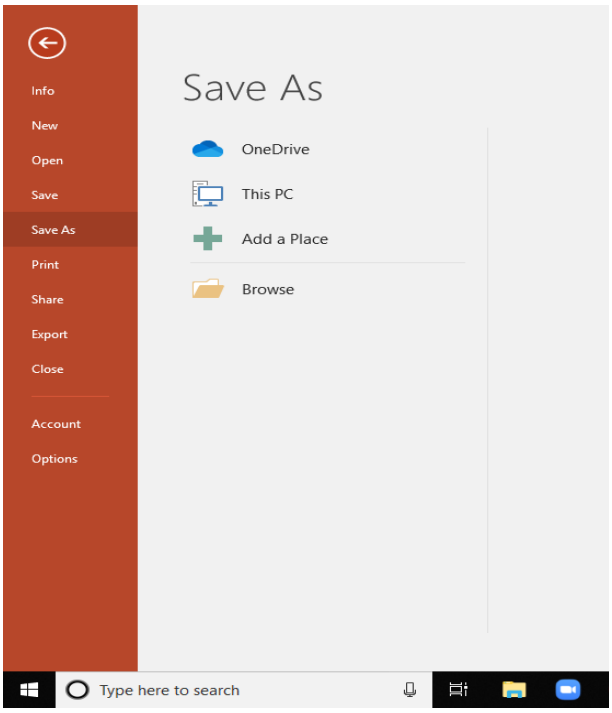
Step 1: Open at least two presentations
Step 2: Click Arrange All button from View tab (Window group)
Step 3: Right click on the slide to be copied (in the slides and Outline task pane of the original presentation –source)
Step 4: Choose Copy from the short/cut context menu

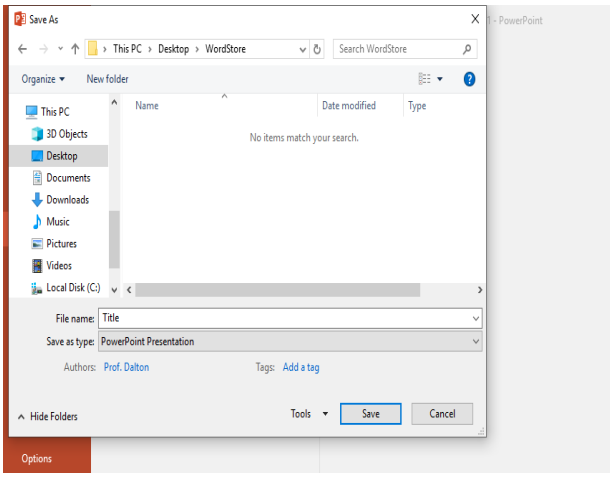
Step 5: In the destination presentation, right click in the desired location. Right click and choose Paste and apply desired options

6.10 Saving a Presentation

Step 1: Click File
Step 2: Click Save or Save as
Step 3: Selected desired folder and provide filename
Step 4: Click Save

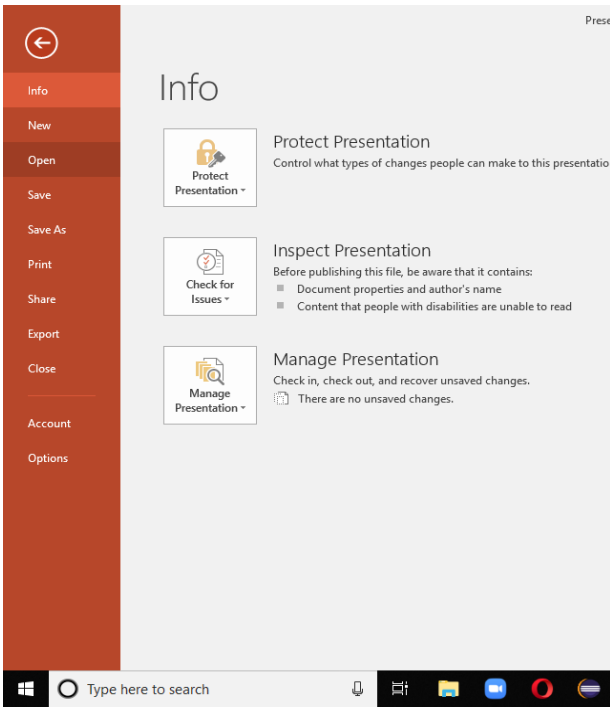


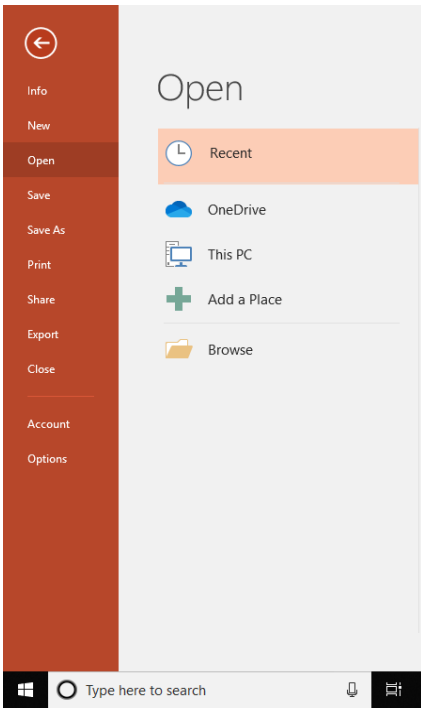


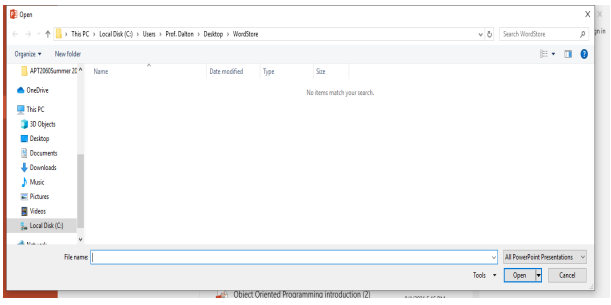


6.11 Opening Existing Presentation

Step 1: Click File
Step 2: Click Open
Step 3: Select desired presentation file
Step 4: Click Open







6.12 Inserting Items in a Presentation

Inserting Clip Arts in a Presentation

Step 1: Click Insert
Step 2: Click Clip Art. In the Search for text box, type keywords related to the clip art that you desire
Step 3: Click Go. A list of images appears in the Results section
Step 4: Click desired image to insert

Inserting Clip Pictures in a Presentation

Step 1: Click Insert
Step 2: Click Picture
Step 3: Choose pictures or locate folder where your desired picture is located
Step 4: Under File Name locate the folder where your desired picture is
Step 5: Click Insert

Inserting Shapes/Objects in a Presentation

Step 1: Click Insert
Step 2: In the illustrations group, Click Shapes
Step 3: Select desired shape

Resizing Shapes/Objects in a Presentation

Step 1: Select the shape to be resized
Step 2: Click and drag a handle until the shape attains the desired size.

Inserting a Chart in a Presentation

Step 1: From the slides pane, select the slide to which you want to add a chart
Step 2: Click Insert tab
Step 3: Click Chart
Step 4: Select the chart type from the displayed list
Step 5: From the gallery in the right of the dialog box, select specific type
Step 6: Click OK
Step 7: Type your data into the Excel worksheet
Step 8: Click Close

Creating an Organization Chart

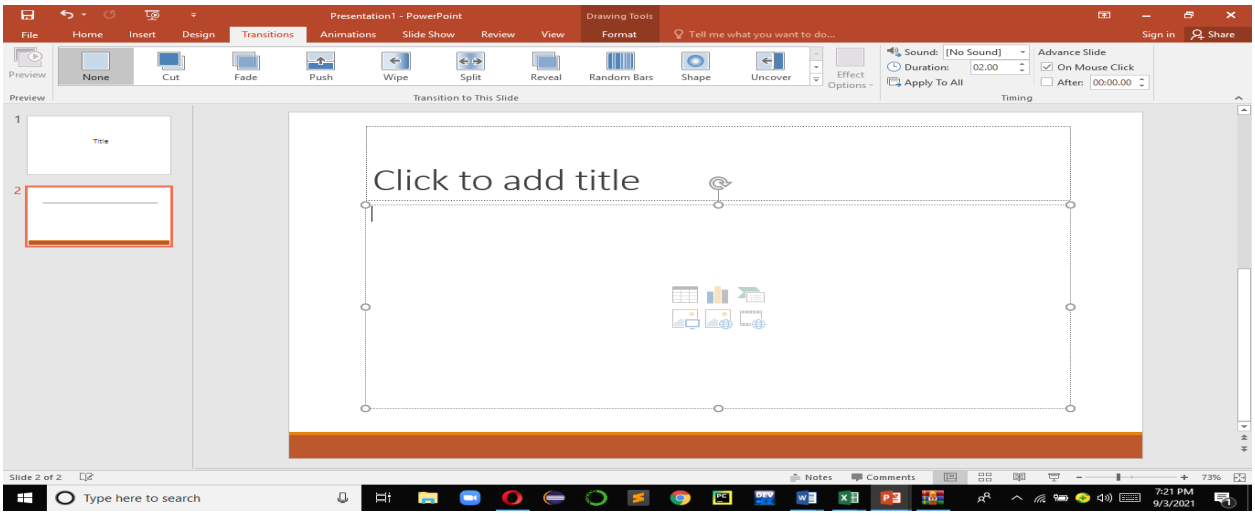
Step 1: Open a presentation
Step 2: Click Slides
Step 3: Click New Slide
Step 4: Select Title and Content
Step 5: In the center of the slide, from the content icons, Click Insert Smart Graphic
Step 6: From the Categories list, select Hierarchy
Step 7: From the gallery, select Organization Chart
Step 8: Click Ok

6.13 Transition Effects and Slide Timings

Slide transition is a special visual effect that is used to introduce a slide during a slide show
Slide timing refers to the length of time a slide appears in the screen

Adding Transitions

Step 1: From the Transitions tab go to the Transition to this Slide and then select Transition Gallery
Step 2: Change Duration in the Timing group
Step 3: Choose to add a sound to the transition, clink on Sound
Step 4: Choose to apply this transition to all of your presentation's slides,
Step 5: Click Apply to all in the Timing group



Removing Transitions

Step 1: Select desired slide
Step 2: Click Transition
Step 3: Select None in the Transitions gallery

Slide Timing

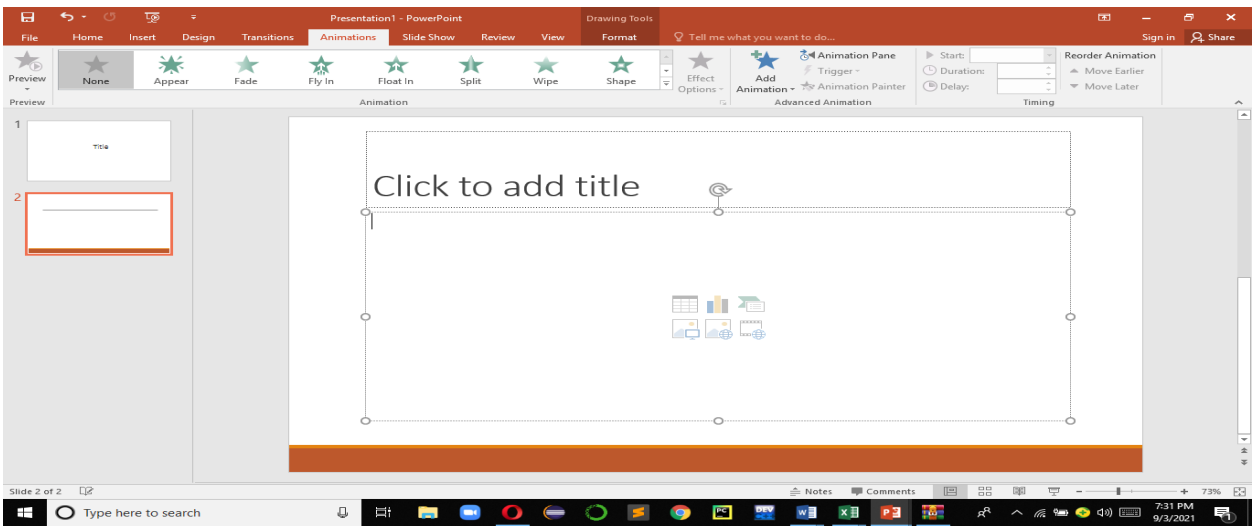
Step 1: Click Transition
Step 2: In the Timing group go to Advance Slide and select After
Step 3: In the After-text box, select desired time

Slide Animation

Step 1: Select the slide to which you want to apply desired animation
Step 2: Click Animation
Step 3: Select an animation from the Animation gallery

6.14 Printing a Presentation

Step 1: Click File
Step 2: Click Print



6.15 Learning Activities

Open a computer and undertake the following activities:

Required:

i. Create a presentation using information from the department
ii. Insert objects and chart in the presentation
iii. Apply different slide designs
iv. Insert animation and effects to some of the slides
v. Save presentation with any name of your choice
vi. Change presentation timing
vii. Run presentation

6.16 Self-Assessment Questions and Activities

1. What are the various parts of the PowerPoint environment?
2. How can PowerPoint be used in a freight and logistics organization?
3. What are the presentation etiquettes for effective PowerPoint presentations?

6.17 References

- Sandra Cable, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks (2016), Shelly Cashman Series Microsoft® Office 365 & PowerPoint 2016 Comprehensive, 1st Edition, eBook
- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.

7.0 DESKTOP PUBLISHING

7.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Describe the role of desktop publishing
ii. Create different types of desktop publishing documents
iii. Formatting desktop publishing documents
iv. Importing and exporting text
v. Object linking and embedding

7.2 Introduction

This topic introduces the student to the technique of creating document using desktop publishers. The topic covers: introduction to the role of desktop publishing; Elements of attractive page layout, colour, and design; creating simple drawings, announcements and magazine covers multi-page documents such as menus, newsletters, tri-fold brochures, a business proposal. Students should be able to produce different types of professional documents.

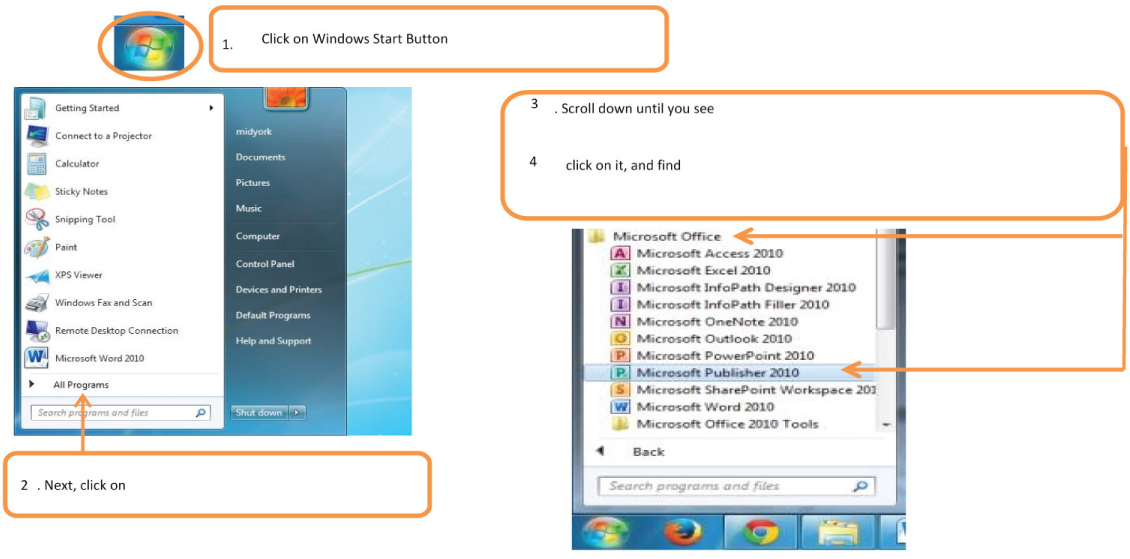
7.3 Desk Top Publishing with MS Publisher

While both Word and Publisher can create documents that seem fairly similar at first glance, the underlying structure of each is markedly different.

- **Word** treats a document as a continuous flow of characters, which have to be formatted "in-line".
- **Publisher** is **"object-oriented",** meaning that it treats a document as a collection of separate and distinct objects which can be moved, edited, or deleted completely independent of any other objects in the document. Images can also be placed outside of the document page area to be used as a parking space.

7.4 Starting Microsoft Publisher

Click on the Windows start button and search for MS publisher



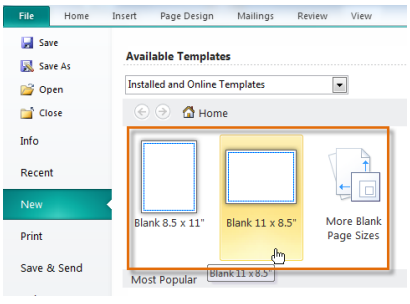
7.5 Publisher Layout

Publisher opens to a Page Design Screen. This page is where you can locate various template designs for a multitude of business and personal needs. You can start with a blank document or work from a pre-designed template.

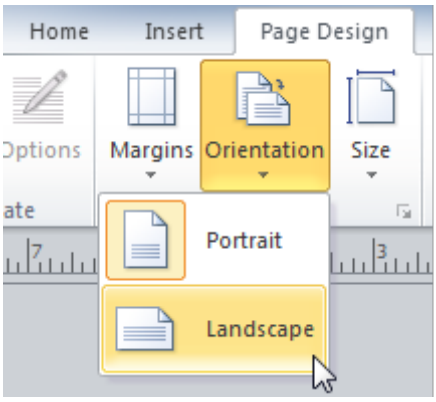
Templates - Publisher has many pre-formatted **templates**, which allow you to get your publication completed with minimal formatting work. We are going to start with a flyer template.

You will notice on a template that there are several layers - layers can consist of images, background colours, or text boxes. Click on different parts of the template to get familiar with the different layers. Clicking and dragging these objects will move them. If you move something by accident, don't worry, there is an undo button on the Quick Access Toolbar at the top of the screen. The keyboard shortcut to Undo is Ctrl+Z.

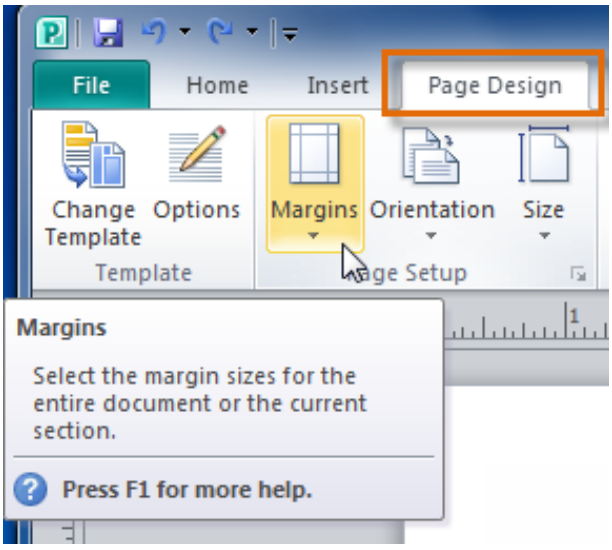
- Creating blank publications - If you don't want to use a template or can't find a template that suits your needs, you can create a **blank publication**. If you create a publication from scratch or decide to heavily modify a template, there are three components of page layout you'll have to consider.
- **Size** - Some publications, like flyers, can be large or small. However, you probably don't want a brochure to be giant.



Orientation - Do you want your publication to be in landscape orientation (wider than tall) or portrait orientation (taller than wide)?



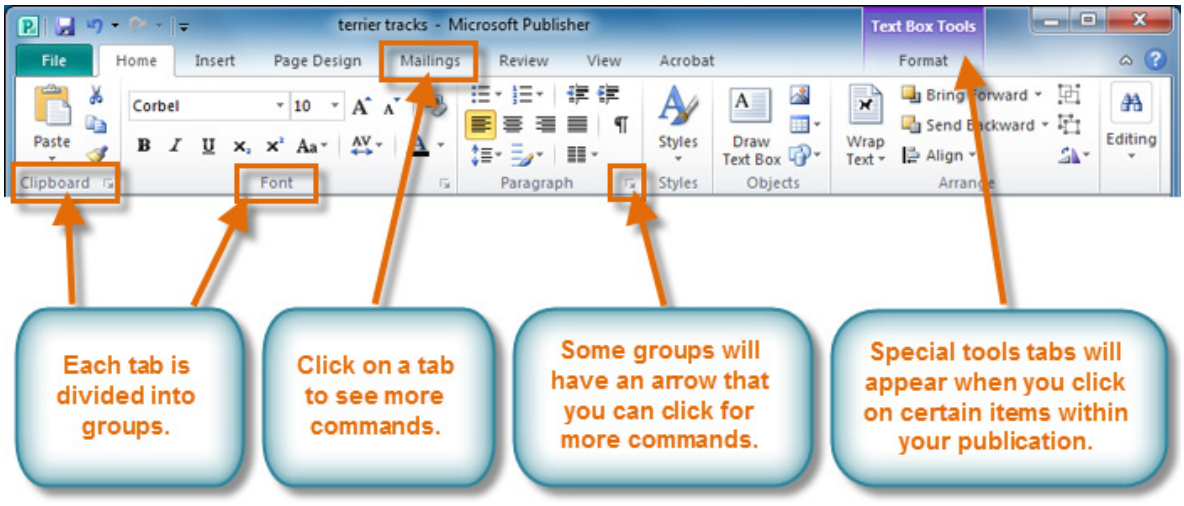
- **Margins -** Margins are areas of blank space that line the edges of a printed document.



7.6 Tabs/Groups

The ribbon is the menu that runs across the top of your screen. Each tab contains a set of groups with commands. Groups are collections of related command buttons. Clicking on different tabs will change the ribbon.

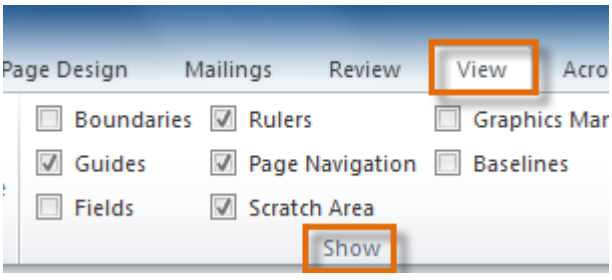
Some tabs, like Text Box Tools or Picture Tools, may appear only when you're working with certain items like text boxes or images.



7.7 Viewing Tools

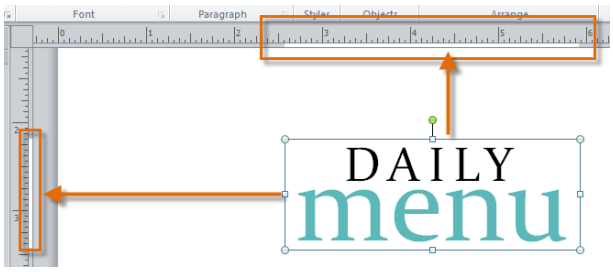
Publisher offers a group of viewing tools to help you control the layout of your text, images, and objects on the page. These viewing tools are for your editing purposes only. They can be turned on and off and **will not appear** in your printed publication.

- To access and choose viewing tools, select the **View** tab, then locate the **Show** group. Click the check boxes of the various view options to turn them on and off.

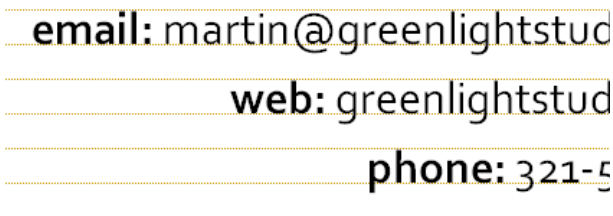


Publication viewing tools include:

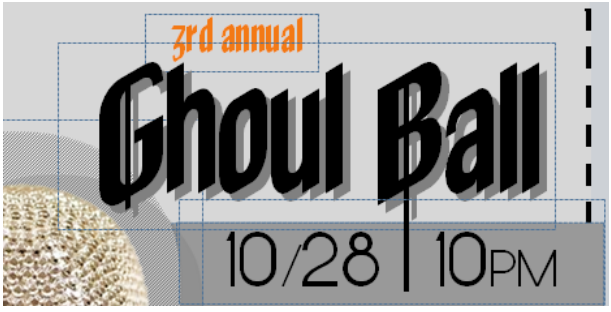
- **Rulers**
  You can use the rulers to the left and top of your publication to help you line up text, images, and other objects and get a clearer idea of exactly where those objects will appear on the printed page. When you select an object in your publication, a white space will appear on the rulers to show the object's location.



- **Baselines**
  Baselines are evenly spaced horizontal lines you can use to line up **text**. You'll learn about automatically aligning text to your baselines in the **Working with Text** lesson.

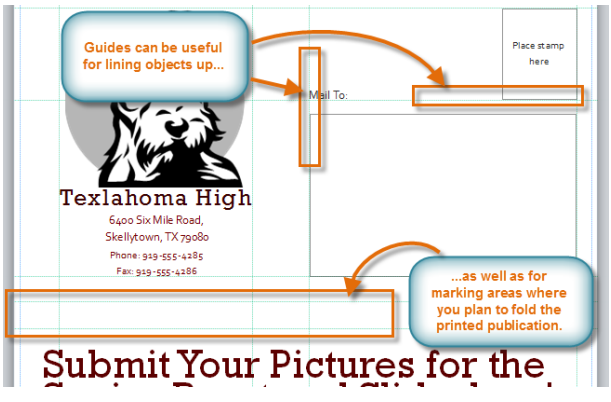


- **Boundaries**
  Boundaries are dark blue dashed borders that appear around your **objects**. Viewing object boundaries can be useful when you're aligning objects or wrapping text.



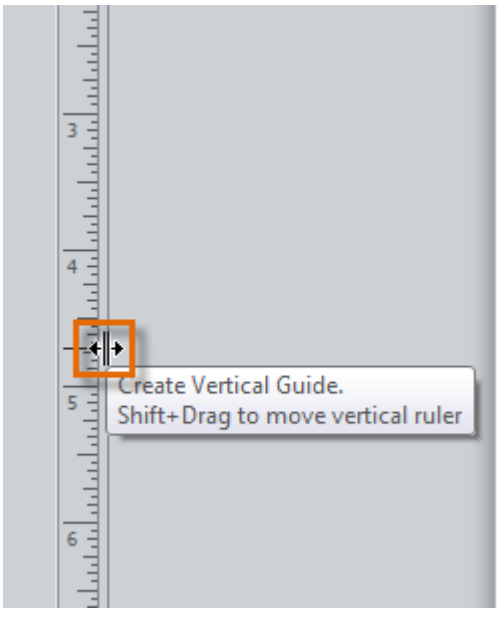
- **Guides**
  Guides are thin lines that help you align various objects. There are two types of guides:
- **Margin guides**, which are blue lines that mark the edges, or margins, of the **printable area** on each page of your publication. Margin guides are automatically created when you set your page margins.

- **Customizable guides**, which are green lines you can add anywhere on your publication.



To add green guides:

1. **Click** either the horizontal or vertical **ruler**.



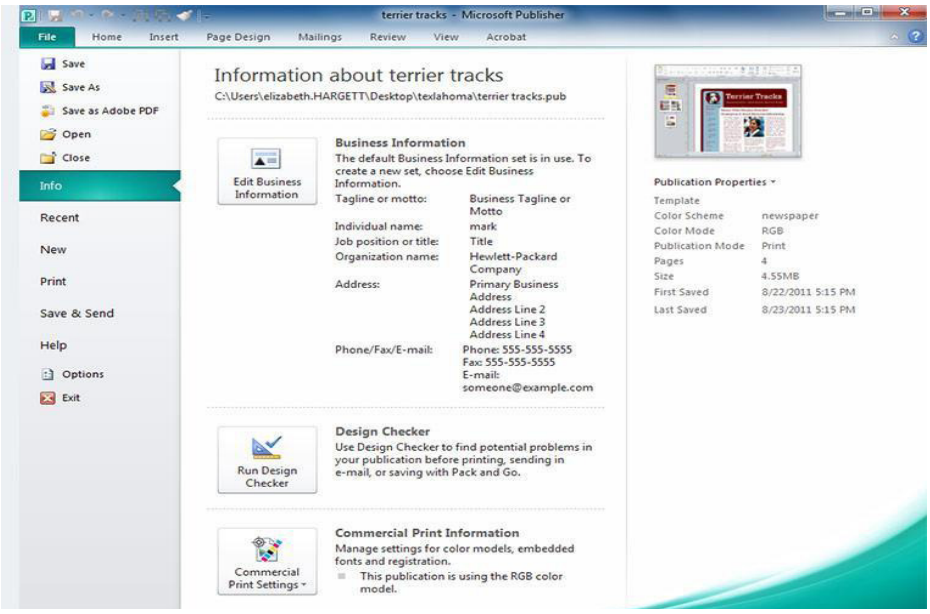
2. **Drag** your mouse to your publication, and **release** to add the guide in the desired location.
3. Your guide will be placed. You can move it at any time by clicking and dragging it.

7.8 Backstage View

In Publisher 2010, options for **saving**, **printing**, and **creating** publications are located in **Backstage view**. It is similar to the **Office Button Menu** from Publisher 2007 or the **File Menu** from earlier versions of Publisher. However, unlike those menus, it is a full-page view, which makes it easier to work with.

- To access Backstage view, click the **File tab**.

Review the interactive options below to learn about the different things you can do in Backstage view.

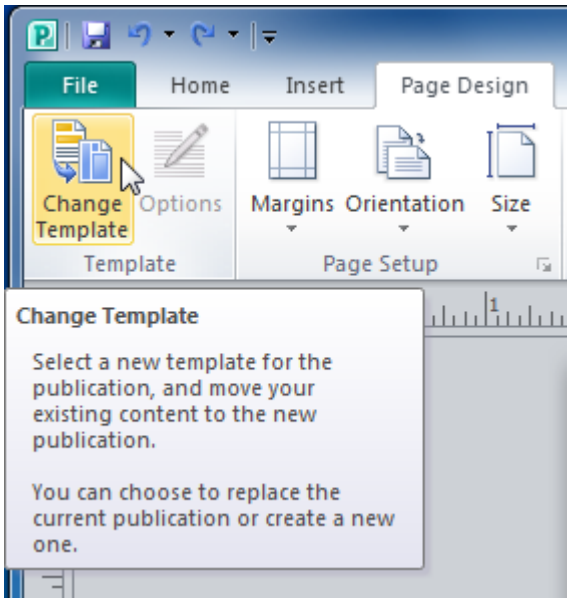


7.9 Changing or Adding a Template

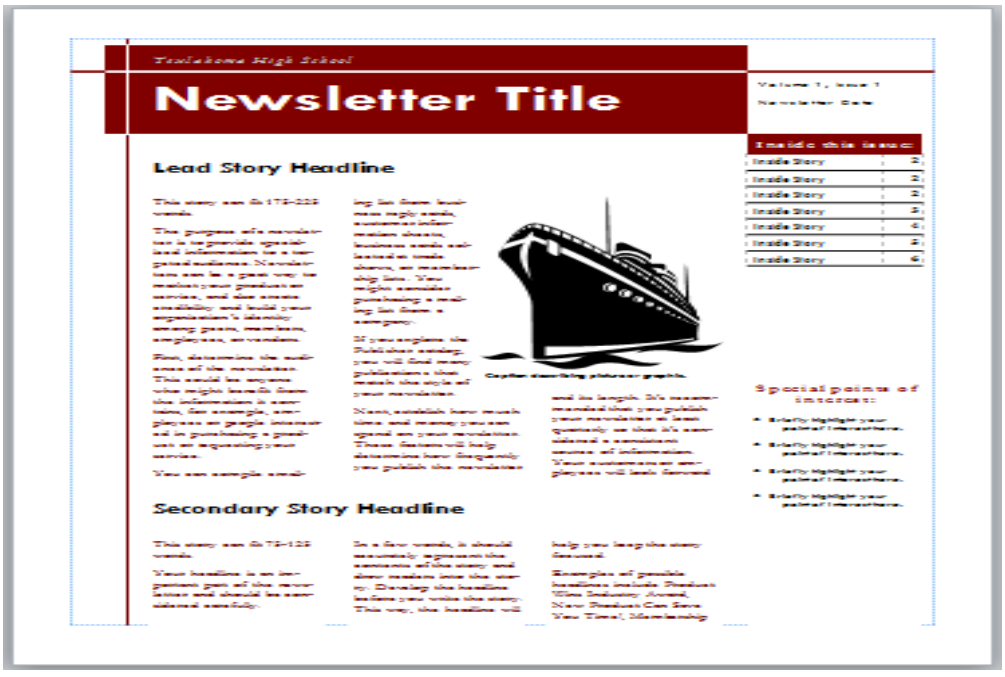
If you create a publication from a template and later decide the chosen template doesn't quite suit your needs, you can always **change** it. You can also apply templates to publications that were originally created from blank pages.

To apply a new template to an existing publication:

1. On the Ribbon, select the **Page Design** tab, then locate the **Template** group.
2. Click the **Change Template** command.



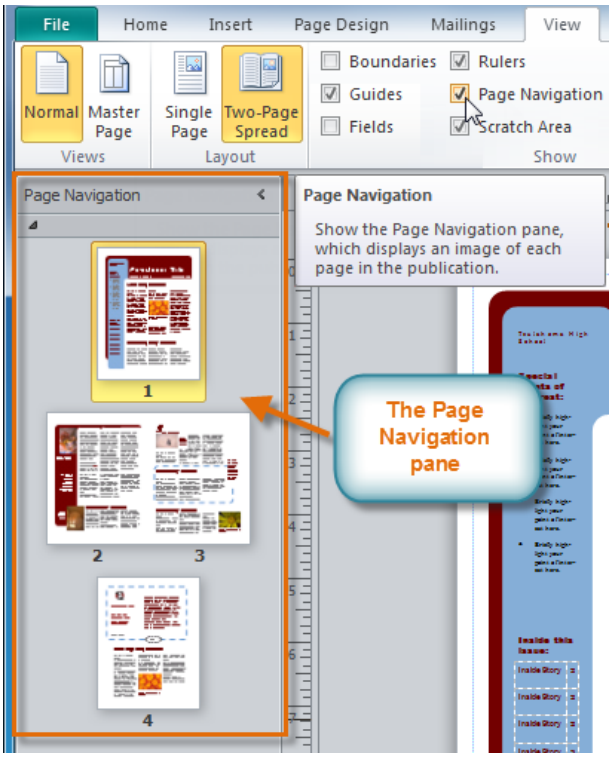
3. The **Change Template** dialog box will appear. Select a template to preview it in the **Preview** pane.
4. Modify template options as desired.
5. When you are satisfied with the new template, click **OK**.
6. A dialog box will appear asking you how you wish to use the template. You can either:
   - Apply the template to the **current** publication
   - Create a **new** publication that includes the text and images you have added
7. Click **OK**.
8. The new template will be applied to your publication.



7.10 Adding, rearranging, and deleting pages

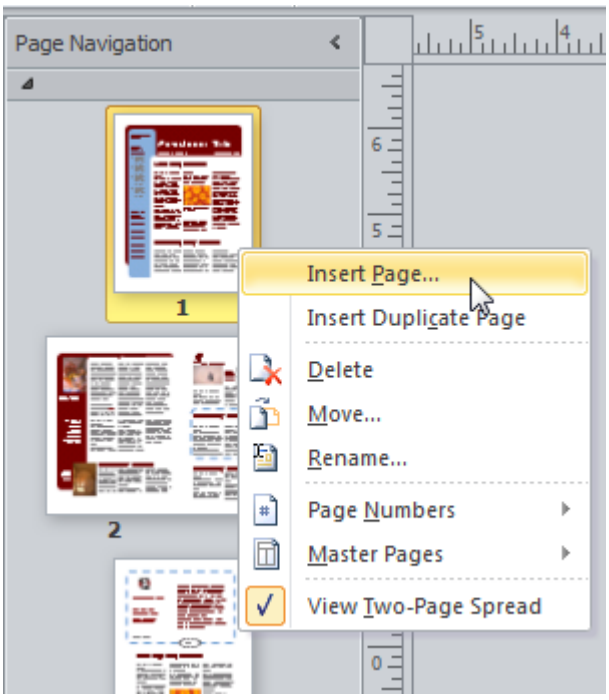
If you're creating a **newsletter** or another type of publication with **multiple pages**, you might find the **Page Navigation** pane useful. The Page Navigation pane gives you a way to view and scroll through the pages in your publication. It also includes features that let you **add**, **move**, and **delete** pages.

1. To open the **Page Navigation** pane, click the **View** tab on the Ribbon, then locate the **Show** group. Select the **Page Navigation check box**.



- **To add a new page:**

1. In the Page Navigation pane, right-click any page, then select **Insert Page**.

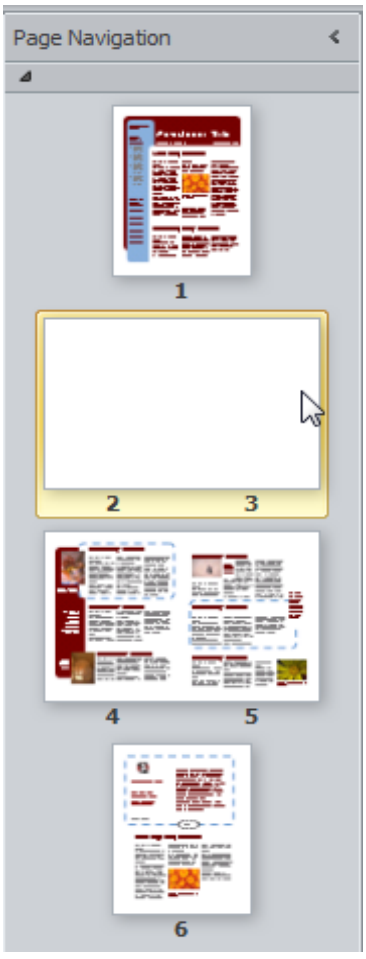


2. The **Insert Page** dialog box will appear. Specify the number of pages to insert and the location where you wish to insert them.
3. Choose what will appear on the new pages. By default, the pages will be **blank**, but you can also choose to create pages that include **one text box** or pages that are **duplicates** of an existing page.
4. Click **OK**.
5. The new page or pages will be inserted.

Depending on the template you're using, when you add a new page you may see a dialog box with page layout options.

- **To move a page:**

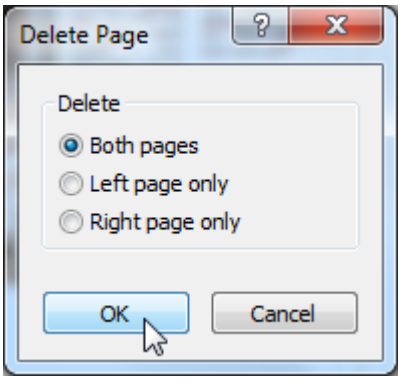
1. In the Page Navigation pane, locate the page you wish to move.



2. **Click** and **drag** the page to its new location, then **release** the mouse.
3. The new page order will be applied.

- **To delete a page**

1. In the Page Navigation pane, right-click the page you wish to delete, then select **Delete** in the list that appears.
2. If the page is part of a **two-page** spread, Publisher will ask if you wish to delete one or both pages. Make your selection, then click **OK**.



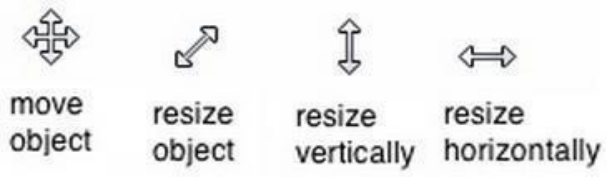
3. The page will be deleted.

7.11 Text Boxes

A text box is a dedicated area to insert text. Most templates automatically have text box areas predesigned for your convenience. You can click inside the text box and edit as needed.

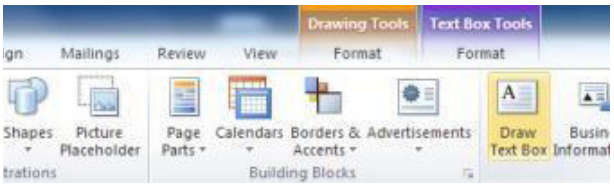
- **Resize a text box:**

1. Select the text box by clicking on the perimeter or inside. You should see the box highlight with a border.
2. On the border you should see little bubbles on the corners and middle of the sides. When you hover your mouse over these bubbles, you will see your cursor change to a two-pointed arrow.
3. Click and drag your mouse on these bubbles to resize the text box. This takes some practice and finesse so don't get frustrated if it doesn't work for you right away.



- **Insert a new text box**

1. Insert tab and click Draw Text Box



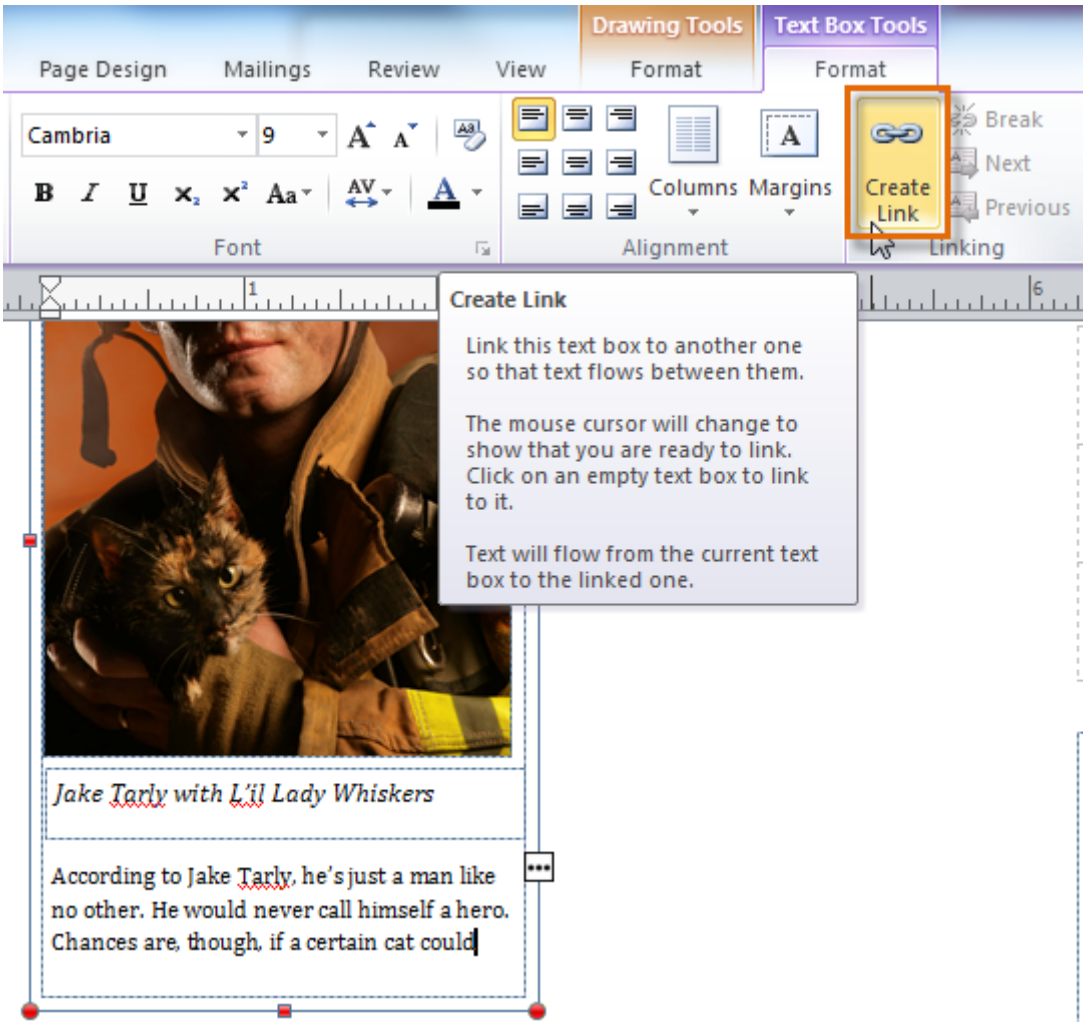
2. Move your cursor to the document and notice your cursor has changed to a crosshair icon Click and drag your cursor to form a text box. Once you release the left mouse button, your text box will be formed. You can resize and move the box as needed.

- **Connect text boxes for overflow text**

You may find yourself in a situation where your text will not fit one given text box. You can link text boxes so overflow text continues in a separate place.

To connect to a new text box:

1. Select your text box.
2. Click the **Text Box Tools Format** tab, then locate the **Linking** group.
3. Click the **Create Link** command.



4. The **Link** icon will appear in place of your cursor. Click the spot on your publication where you would like to add the linked text box.
5. The text box will be added. Resize it as necessary.
6. Continue typing your text. Any text that overflows from the original text box will now appear in the connected box.

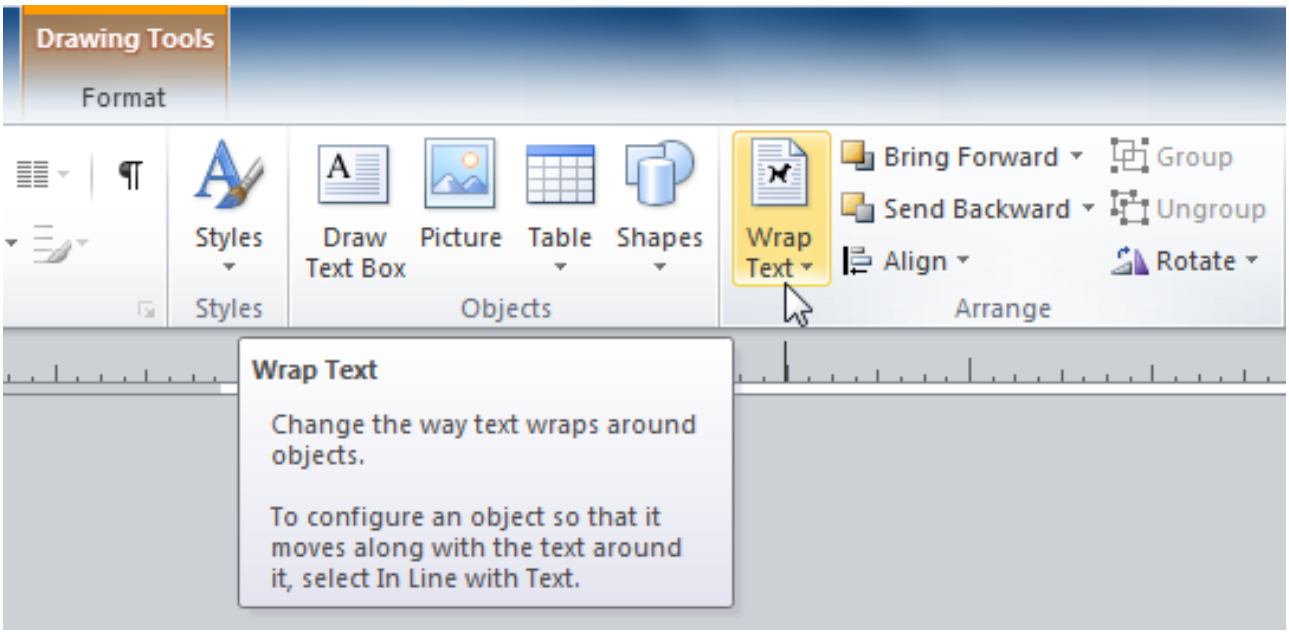
The new text box will appear with your previously unseen text. You may need to resize the text box as necessary.

- **Wrapping text**

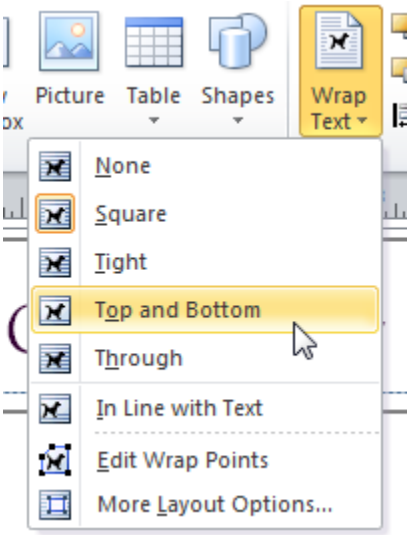
If you place a text box near another text box or object, you may notice them overlapping or not appear exactly the way you want. Changing the wrap text settings may fix this problem.

To wrap text around an object, such as a picture:

1. Select the object, then click the **Format** tab that appears on the Ribbon.
2. Locate the **Arrange** group, then click the **Wrap Text** drop-down command.



3. Select the desired wrap option. The text will adjust based on the option you have selected.



4. If necessary, reposition the object until the text wraps correctly.

If you can't get your text to wrap the way you wish, click the **Wrap Text** command and select **More Layout Options** from the menu. You can make more precise changes in the Advanced Layout dialog box that appears.

- **Modifying text boxes**

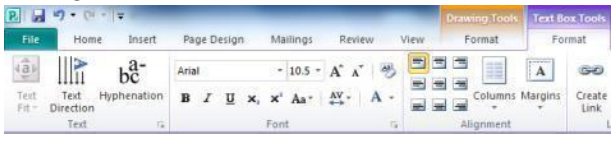
The **Text Fit** options allow you to format text boxes that **automatically adjust** font or text box size to get a good fit. There are four text fit options you can apply to any text box:

- **Best Fit**, which makes the text larger or smaller to fit the text box
- **Shrink Text on Overflow**, which automatically shrinks the font size when the text box has no room for additional text
- **Grow Text Box to Fit**, which automatically enlarges the text box based on text size and length
- **Do not Autofit**, which makes no automatic changes to the text or text box size; this is the default option

To modify text fit, select the text box, then click the **Text Fit** drop-down command in the **Text** group of the Text Box Tools Tab. Select the desired option.

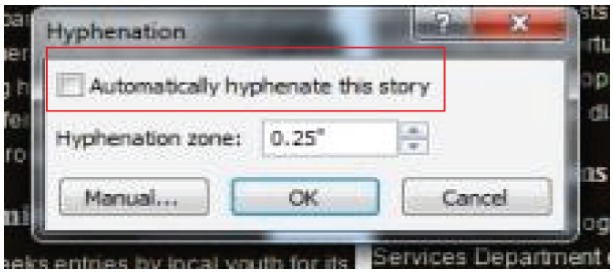
7.12 Hyphenation

Microsoft Publisher automatically cuts words off with hyphens in order to fit text into a confined space. You can control how often the program hyphenates words by changing the hyphenation settings.



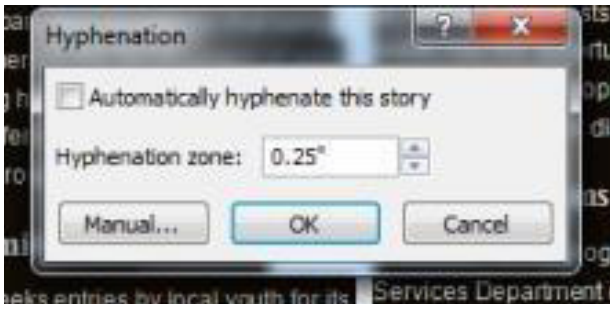
- **To remove all hyphens**

1. Highlight the text
2. Click on Text Box Tools Format tab, then Hyphenation
3. Uncheck the box next to Automatically hyphenate this story, then OK



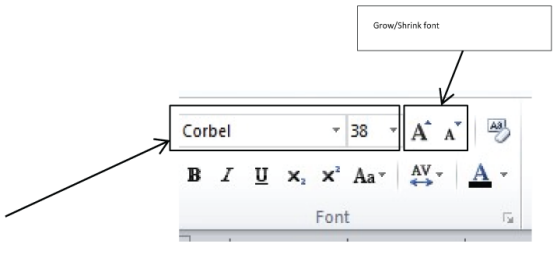
- **Changing the Hyphenation Zone**

1. Increasing the Hyphenation Zone will create fewer hyphens, but the text may appear more uneven on the right-side.
2. Decreasing the Hyphenation Zone will break up your text with more hyphens. More hyphenated words will make the right edge of the text appear more even.

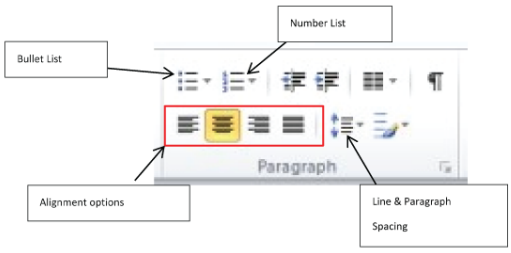


7.13 Formatting Text

Refers to changing the appearance of text. Select the Home Tab, Font group and then Font style and size. Alternatively, when you hold your mouse pointer over each font, you can preview what that change will look like in your document. The changes aren't permanent until you click your selection!



Other formatting features include numbering, alignment and paragraph settings.

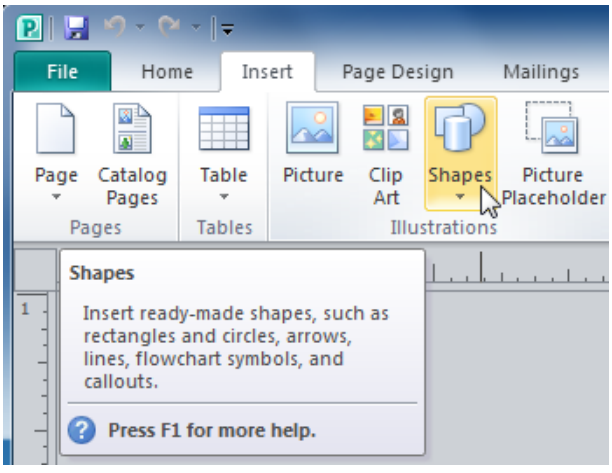


7.14 Inserting Pictures and Clip Art

In Publisher, the components of any publication are called **objects**. You've already worked with text boxes, which are one type of object. Publisher offers decorative objects as well, including shapes and **Building Blocks**.

In this lesson, you'll learn how to create and modify **shapes** and **Building Blocks**. You'll also learn how to **align**, **group**, and **arrange** objects of all types.

1. Select the **Insert** tab, then locate the **Illustrations** group.
2. Click the **Shapes** drop-down command.

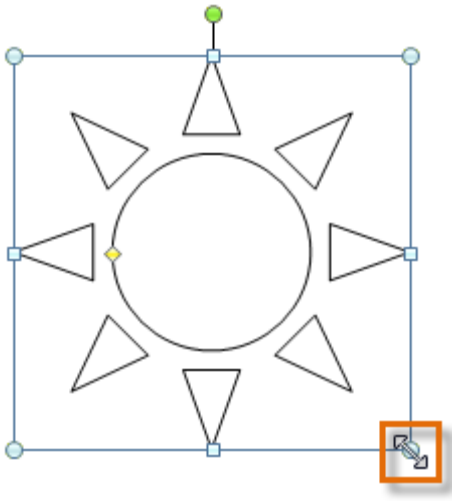


3. Select a shape from the drop-down menu.
4. Click and drag the mouse until the shape is the desired size.
5. Release the mouse button. The shape will be added to your publication.

To add a picture to your publication, you can either insert an image you have saved on your computer or choose one from Publisher's large selection of **Clip Art**. Once you've added images, you can then **edit** them as you wish.

- **To resize a shape:**

1. Select the shape.
2. Click and drag one of the **sizing handles** on the corners and sides of the text box until it is the desired size. You can:
   - Drag the top or bottom sizing handles to modify shape **height**
   - Drag the side handles to modify shape **width**
   - Drag the **corner handles** to modify **height** and **width** at the same time



3. To rotate the shape, click and drag the **green handle**.

4. Some shapes also have one or more **yellow handles** that can be used to modify the shape. For example, with this sun shape you can adjust the diameter of the center circle and the length of the points.

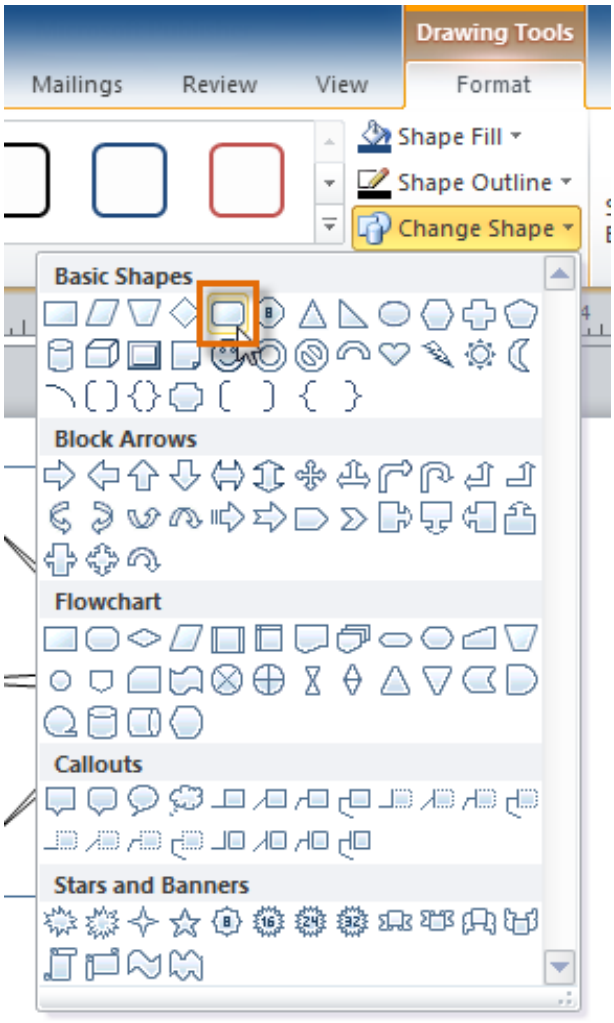
If you hold down the **shift** key while resizing a shape, the shape will keep its **proportions** instead of getting stretched out. For instance, if you hold down the shift key while you resize a **square**, the final shape will remain a perfect square with four equal sides.

- **Modifying shapes**

To change to a different shape:

1. Select the shape, then click the **Format** tab and locate the **Shape Styles** group.
2. Click the **Change Shape** drop-down command.

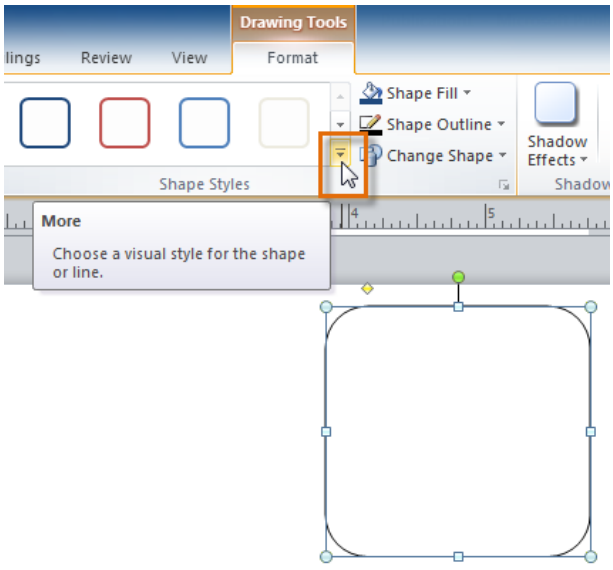
3. A drop-down list will appear. Select the desired shape.



4. The shape will be changed.

- **Change shape style:**

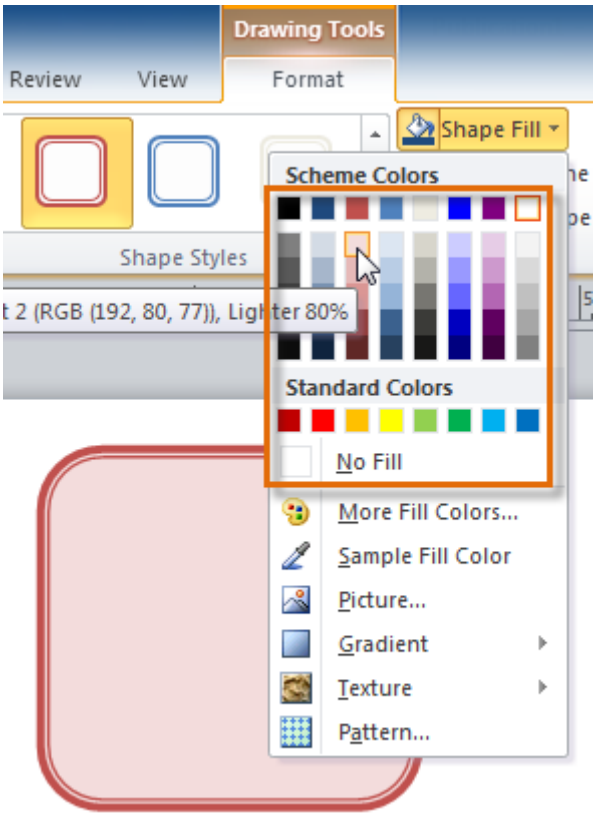
1. Select the shape, then click the **Format** tab and locate the **Shape Styles** group.
2. Click the **More Shape Styles** drop-down arrow.



3. A drop-down list of styles will appear. Move your cursor over the styles to see a live **preview** of the style in your publication, then select the desired style.
4. The style will be applied to the shape.

- **Change the shape fill color:**

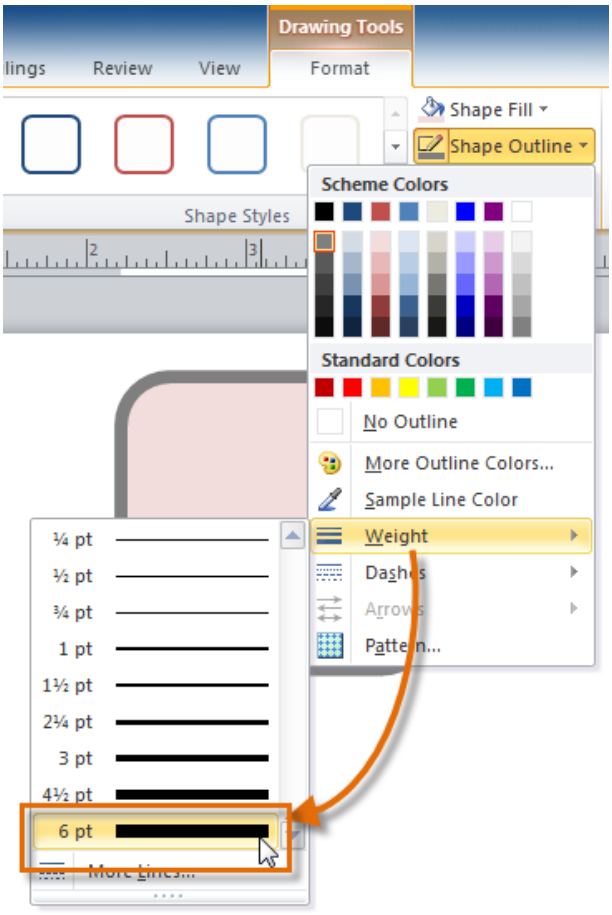
1. Select the shape, then click the **Format** tab and locate the **Shape Styles** group.
2. Click the **Shape Fill** drop-down command.
3. A drop-down list of colors will appear. Select the desired fill color from the list. You can also choose **No Fill** to remove the fill from your shape or **More Fill Colors** to select a custom color.



4. The new fill color will be applied.

- **Change the shape outline:**

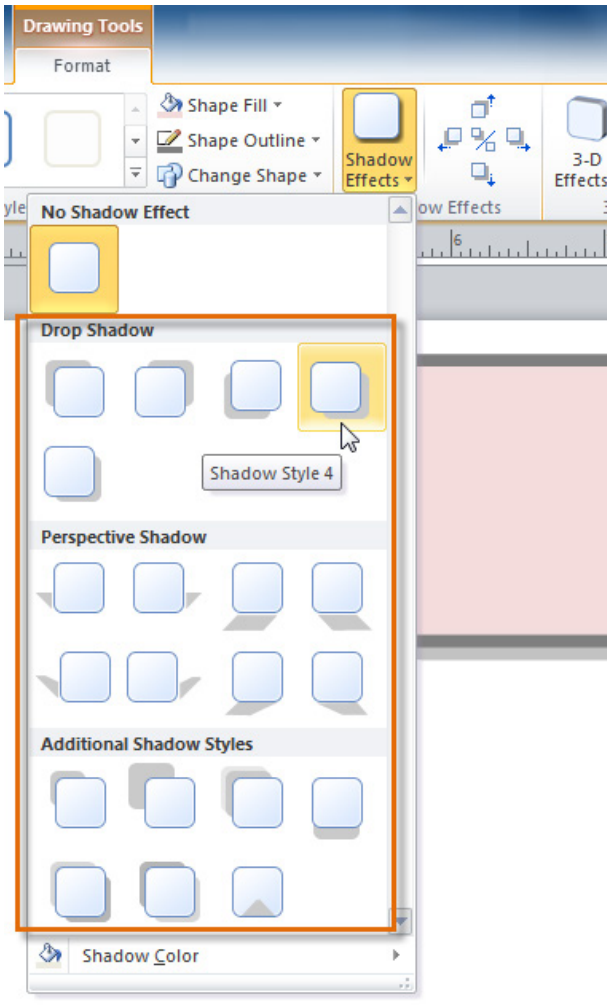
1. Select the shape, then click the **Format** tab and locate the **Shape Styles** group.
2. Click the **Shape Outline** drop-down command.
3. A drop-down list of options will appear. Select the desired outline color from the list. You can also choose **No Outline** to remove the outline from your shape or **More Outline Colors** to select a custom color.
4. If desired, further modify your shape outline by changing the outline's **weight** (thickness) and whether or not it is a **dashed** line.



5. The shape outline will be modified.

- **Add a shadow:**

1. Select the shape, then click the **Format** tab and locate the **Shadow Effects** group.
2. Click the **Shadow Effects** drop-down command.
3. A drop-down menu with a list of shadow choices will appear. Move your mouse over a shadow effect to see a live preview of it in your publication.



4. Click the desired shadow effect to apply it to your shape.

You can select **Shadow Options** from the drop-down menu and click the **Color** button to select a different shadow color for your shape.

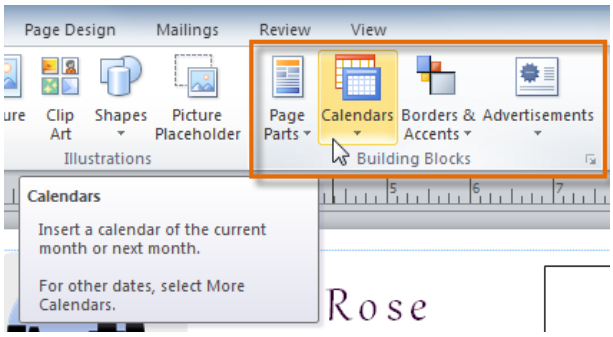
- **Working with Building Blocks**

Building Blocks are another type of object in Publisher. They usually contain some combination of **text**, **shapes**, and **images**, and they're meant to enhance the appearance of your publication. Once you insert a Building Block, you can modify it to suit your needs.

There are four types of Building Blocks Namely: Page parts, calendars, Borders and Accents, and advertisements

To insert a Building Block:

1. Select the **Insert** tab, then locate the **Building Blocks** group.
2. Click one of the four **Building Block drop-down commands**.



3. A drop-down menu will appear with Building Block styles and options. Select the desired Building Block.
4. The Building Block will be inserted.
5. If desired, modify the Building Block's text and formatting until you are satisfied with its appearance.

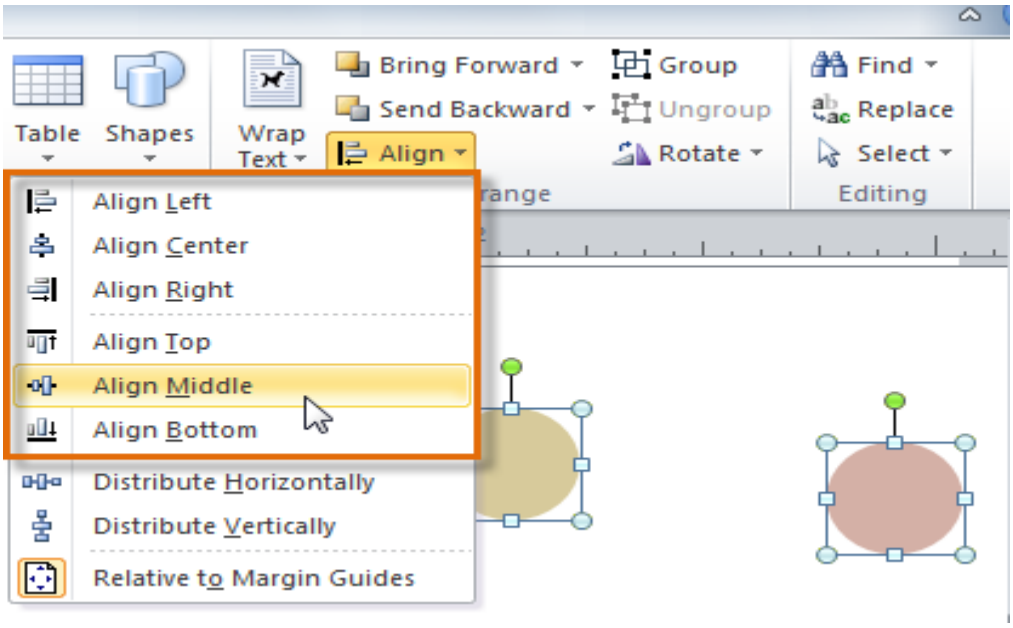
7.15 Arranging Objects

Publisher offers a number of tools to help you **arrange** and **order** your objects. These tools work for any object, and they can help you lay out your pages quickly and precisely.

- **Aligning**

To align two or more objects:

1. Click and drag your mouse to form a **selection box** around the objects you want to align. All of the objects will now have **sizing handles** to show that they are selected.
2. Click the **Format** tab, then locate the **Arrange** group.
3. Click the **Align** drop-down command.
4. Select one of the six **alignment options**.

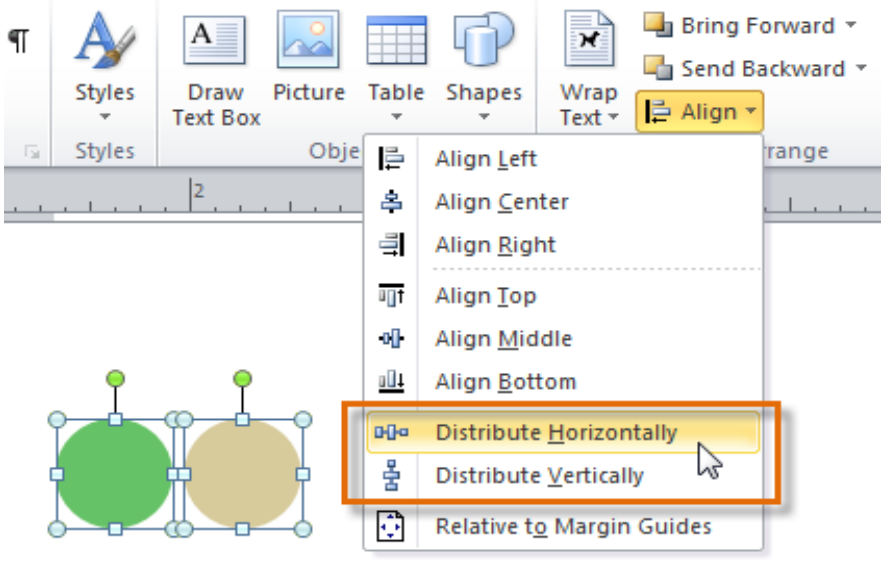


5. The objects will align to each other based on the option you have selected.

Another way to select multiple objects at once is to simply hold down the **shift** key and click each object you wish to select.

To align objects to the page, select Relative to Margin Guides.

If you have arranged objects in a row or column, you may want them to be an equal distance from one another for a neater appearance. To distribute objects select Distribute Horizontally or Distribute Vertically.

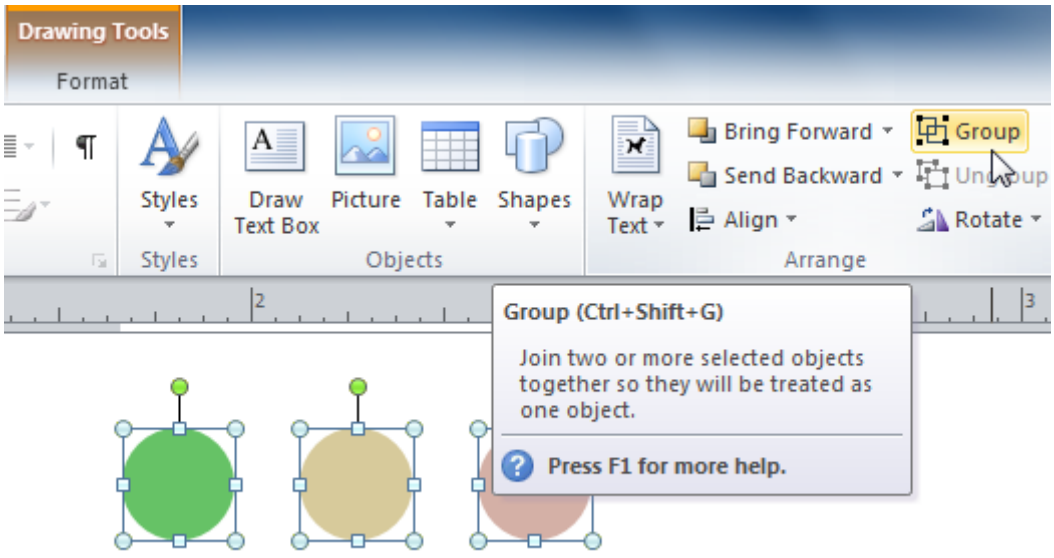


- **Grouping**

At times, you may want to **group** multiple objects into **one object** so they will stay together if they›re moved. This can be easier than selecting all of the objects each time you want to move them.

To group objects:

1. Select the objects you wish to group.
2. Click the **Format** tab, then locate the **Arrange** group.
3. Click the **Group** command.



4. The selected objects will now be grouped. There will be a **single box with sizing handles** around the entire group to show that they›re one object.

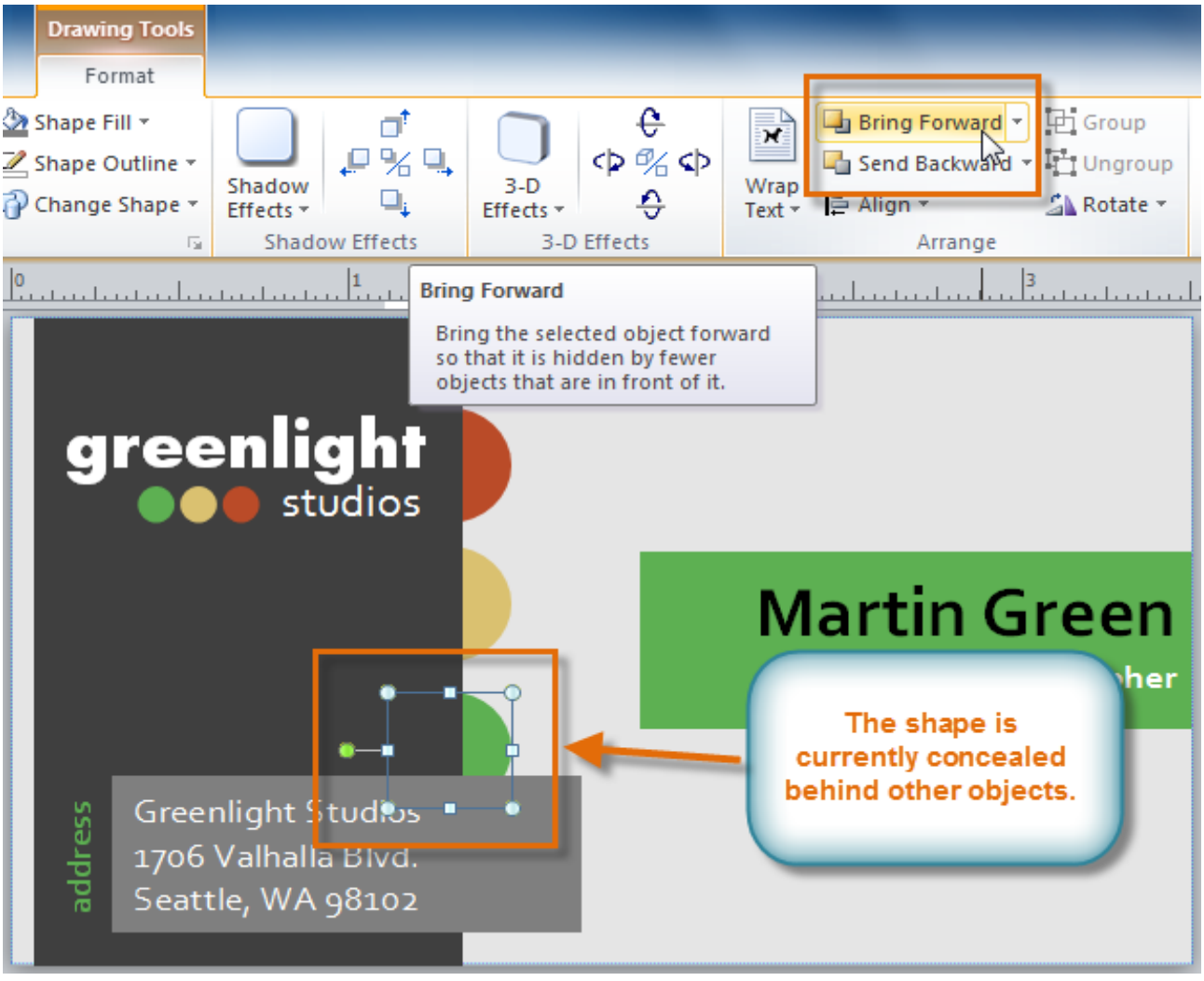
You can **ungroup** grouped objects at any time. Simply select the group, then click the **Ungroup** command.

- **Ordering objects**

In addition to aligning and grouping objects, Publisher gives you the ability to **arrange objects** in a **specific order**. Ordering is important when two or more objects **overlap**, as it will determine which objects are in the **front** or the **back**.

To change the ordering by one level:

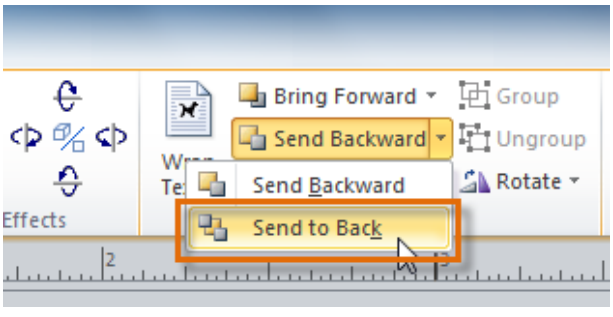
1. Select the object you wish to move.
2. Click the **Format** tab, then locate the **Arrange** group.
3. Click the **Bring Forward** or **Send Backward** command to change the object›s ordering by **one level**. If the object overlaps with more than one other object, you may need to click the command **several times** to achieve the desired ordering.



4. The objects will reorder themselves.

If you want to move an object behind or in front of several objects, it's usually faster to **bring it to front** or **send it to back** rather than clicking the ordering commands multiple times.

1. Select the object you wish to move.
2. Click the **Format** tab, then locate the **Arrange** group.
3. Click the **Bring Forward** or **Send Backward** drop-down command
4. From the drop-down menu, select **Bring to Front** or **Send to Back**.



5. The objects will reorder themselves.

7.16 Working with Pictures

- **Cropping pictures:**

Pictures have additional features compared to other objects i.e., shapes. They can be cropped

1. Select the picture, then click the **Picture Tools Format** tab and locate the **Crop** group.
2. Click the **Crop** command.
3. The black **cropping handles** will appear. Click and drag a **handle** to crop the picture. The areas that will be cropped will appear to be semi-transparent.

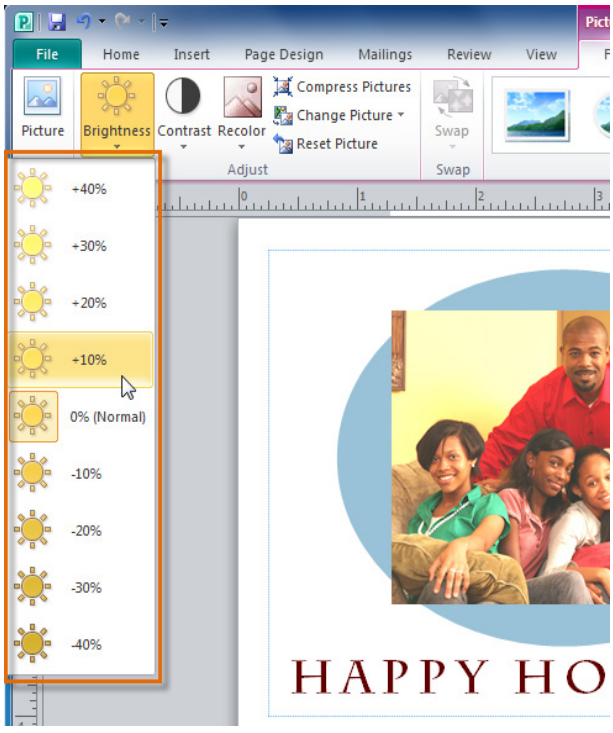
4. When you are satisfied with the appearance of your picture, click the **Crop** command again.
5. The picture will be cropped.

- **Modifying Brightness and contrast**

One of the most basic edits you can make to a picture is modifying its **brightness** and **contrast**. Although these tools are separated into two commands in Publisher, they are most effective when used together.

To adjust brightness and contrast:

1. Select the picture you wish to adjust, then select the **Picture Tools Format** tab and locate the **Adjust** group.
2. Click the **Brightness** drop-down command.
3. From the drop-down menu that appears, select the desired brightness. Positive numbers (+) will make the picture **brighter**, while **negative numbers (-)** will make the picture **darker**.



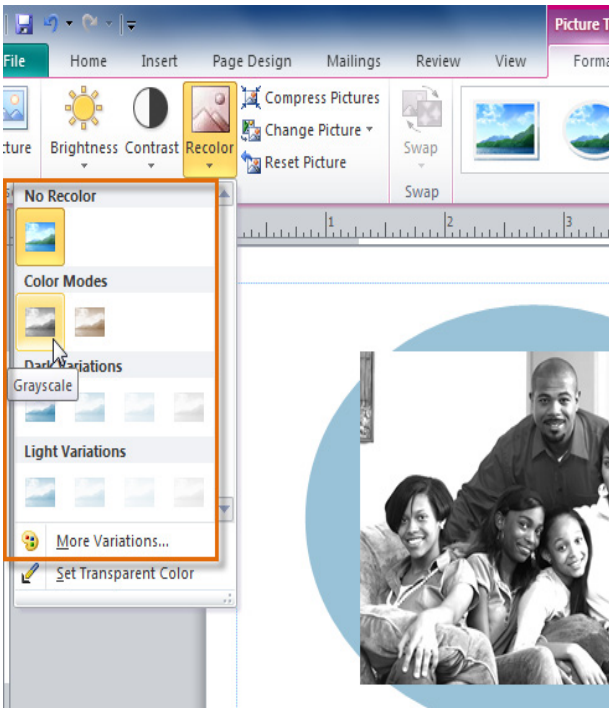
4. Click the **Contrast** drop-down command.
5. Select the desired **contrast** level. **Positive numbers (+)** will create a **greater contrast** between the light and dark areas of the picture, while **negative numbers (-)** will **reduce the contrast**.

- **To recolor the picture:**

1. Select the picture you wish to recolor, then select the **Picture Tools Format** tab and locate the **Adjust** group.

2. Click the **Recolor** drop-down command.

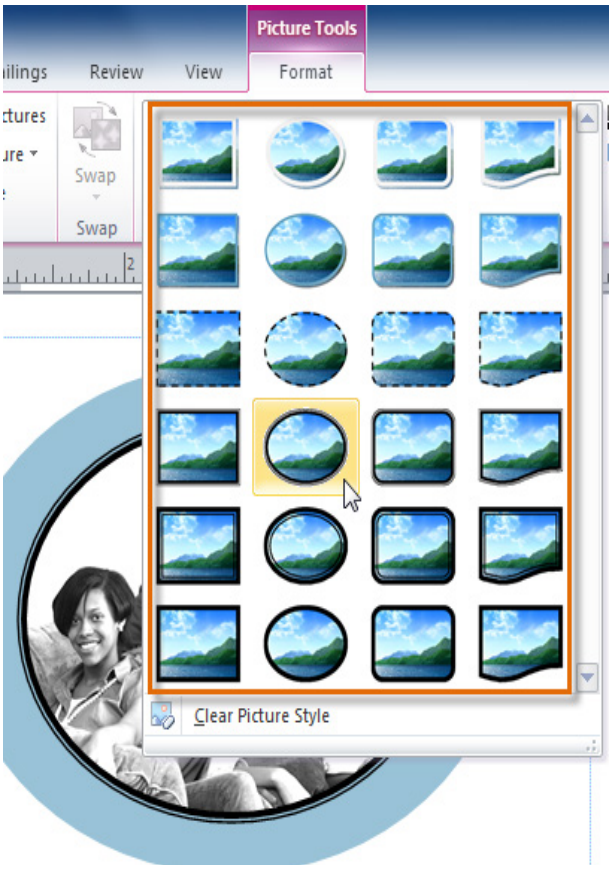
3. From the drop-down menu that appears, select a **recoloring option** or select **More Variations** to see additional color choices.



4. The picture will be recolored.

- **To apply a picture style:**

1. Select the picture, then click the **Picture Tools Format** tab and locate the **Picture Styles** group.
2. Click the **More Picture Styles** drop-down arrow.
3. A drop-down list of styles will appear. Move your cursor over the styles to see a live **preview** of each style in your publication, then select the desired style.



4. The style will be applied to the picture.

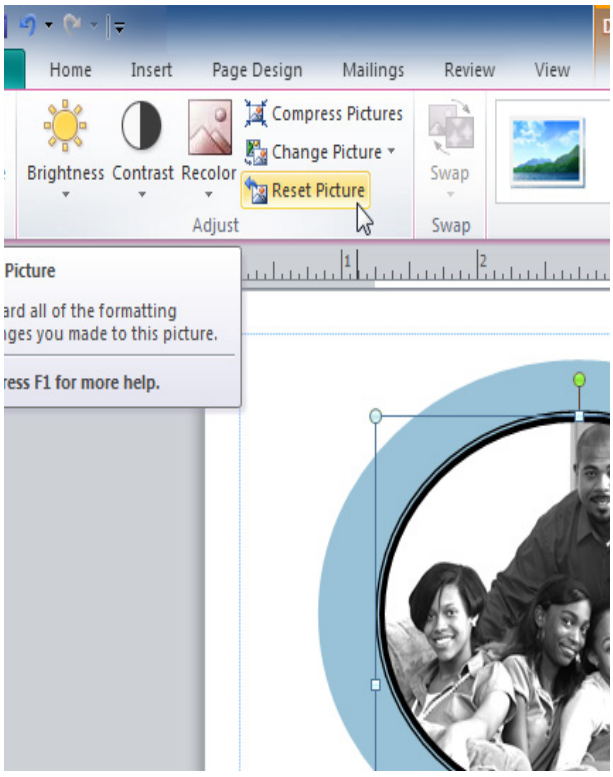
- **To add a caption:**

1. Select the picture, then click the **Picture Tools Format** tab and locate the **Picture Styles** group.
2. Click the **Caption** drop-down command.
3. A drop-down list of **caption styles** will appear. Move your cursor over the caption styles to see a live **preview** of the captions with your picture, then select the desired caption style.

4. Click the caption **text box** and type your caption text.

- **To restore a picture to its original appearance:**

1. Select the picture, then click the **Picture Tools Format** tab and locate the **Adjust** group.
2. Click the **Reset Picture** command.



3. The picture will be restored to its original appearance.

If you've worked with pictures in Word or PowerPoint 2010, you probably noticed that Publisher includes only a fraction of the image editing tools featured in those programs. If you find yourself reaching the limit of Publisher's editing capabilities, you may wish to edit your picture in one of those programs, then **insert** it back into your publication.

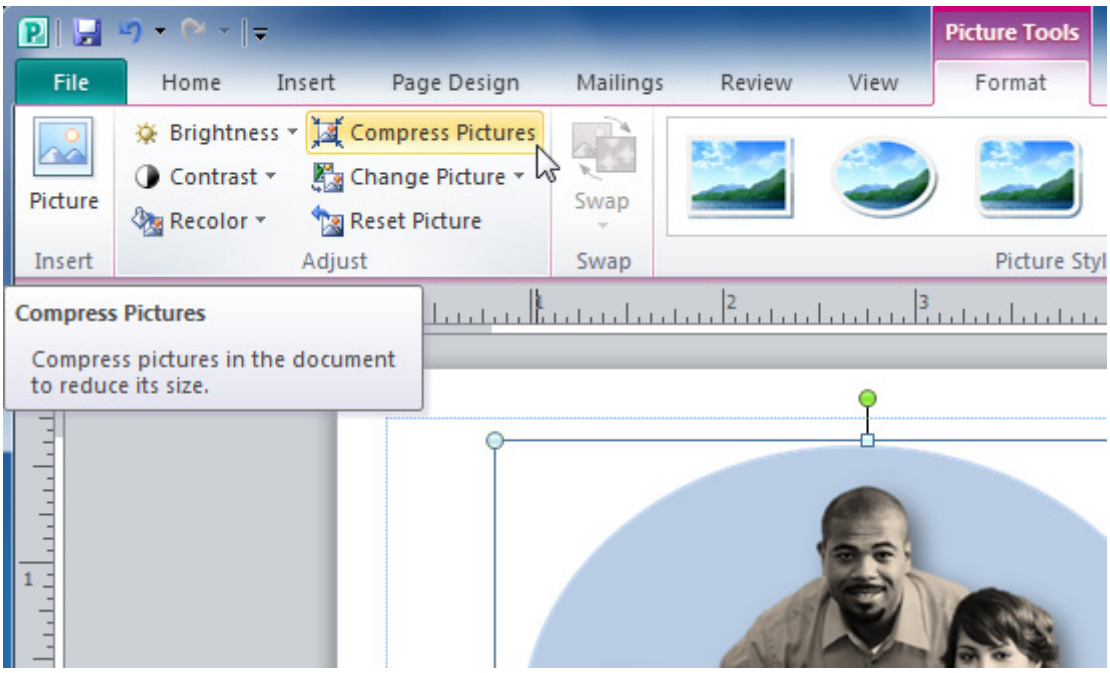
- **Compressing pictures**

You'll need to monitor the **file size** of publications that include pictures, especially if you send them via email. Large, high-resolution pictures can quickly cause your publication to become too large, which may make it difficult or impossible to attach to an email. In addition, **cropped areas** of pictures are saved with the publication by default, which can add to the file size. Publisher can reduce the file size by **compressing** pictures, lowering their **resolution**, and **deleting cropped areas**.

Only compress pictures **after** you have edited and resized them. Attempting to **enlarge** or otherwise edit a compressed picture may result in a blurry or otherwise **low-quality image**.

To compress pictures:

1. Select a picture, then click the **Picture Tools Format** tab and locate the **Adjust** group.
2. Click the **Compress Pictures** command.



3. The **Compress Pictures** dialog box will appear. Review the settings in the **Compression Options** section. All four boxes should be checked.
4. In the **Target Output** section, select your planned method of publication.
5. Choose whether to compress every picture in the publication or the selected picture only.
6. When you are satisfied with the publication settings, click **OK**. The picture or pictures will be compressed.

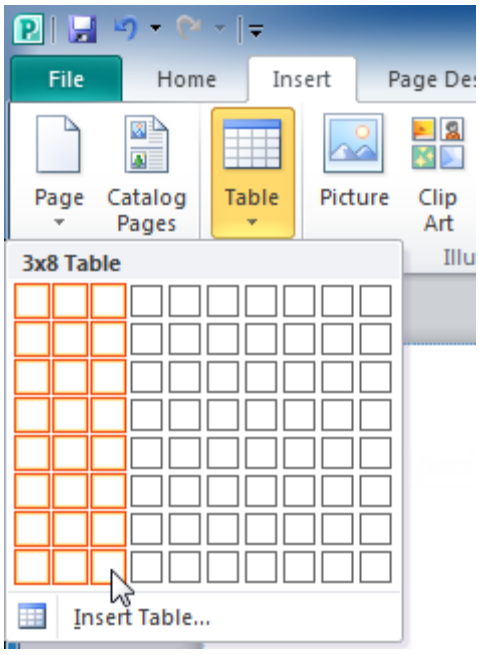
7.17 Inserting Tables

A **table** is a grid of cells arranged in **rows** and **columns**. Tables are useful for organizing information in a concise and easily readable way. Text contained in tables is easy to space and align, which make them ideal for presenting lists of related information in Publisher, like store hours or products and their prices.

In this lesson, you will learn how to insert, modify, and change the appearance of tables.

To insert a table:

1. Click the **Insert** tab, then locate the **Tables** group.
2. Click the **Table** drop-down command.
3. Hover your mouse over the diagram squares to select the number of **columns** and **rows** in the table, then **click** your mouse.



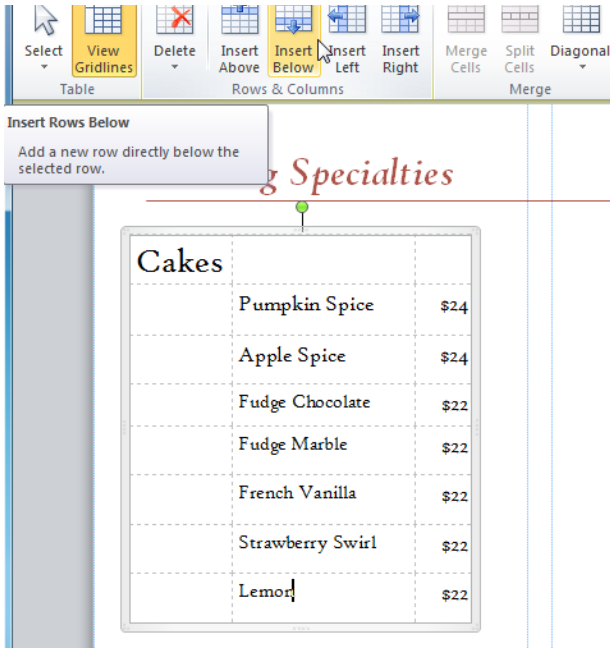
4. The table will be inserted.

Depending on the size of the page you're working with or t he other objects you choose to add, you may have to resize or rearrange your table.
Tables can be modified like any other objects.

- **Modifying table layout**

To add a row or column:

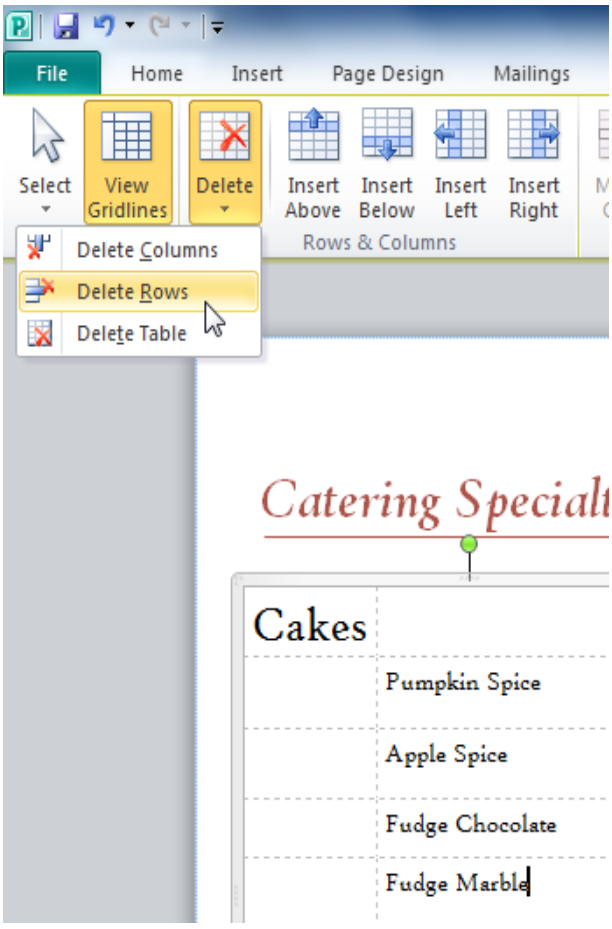
1. Place the insertion point in a cell
2. **adjacent to** the location where you wish to add a row or column.
3. Select the **Table Tools Layout** tab, then locate the **Rows & Columns** group.
4. Insert your new row or column.
   - If you would like to insert a new **row**, select either **Insert Above** or **Insert Below**.
   - If you would like to insert a new **column**, select either **Insert Left** or **Insert Right**.



5. The new row or column will appear.

- **To delete a row or column:**

1. Select the row or column you wish to delete by placing the insertion point in any cell in that row or column.
2. Select the **Table Tools Layout** tab, then locate the **Rows & Columns** group.
3. Click the **Delete** drop-down command.
4. A drop-down menu will appear. Select **Delete Rows** or **Delete Columns**.



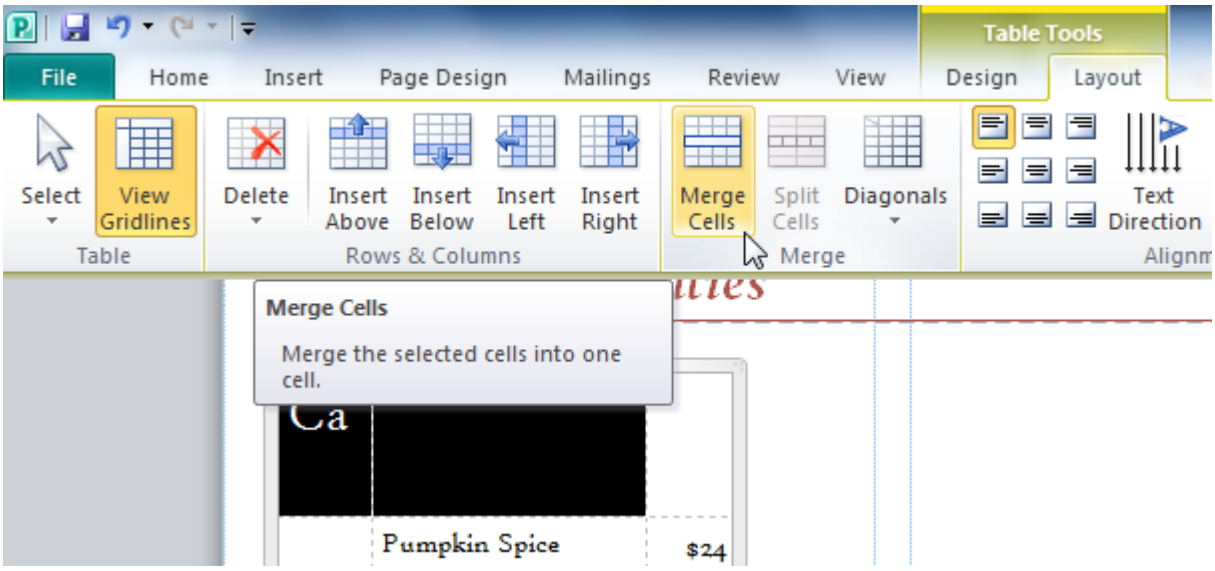
- **Merging and splitting cells**

If you want a create a cell that is wider or taller than the other cells in your table, you can use the **Merge** command to combine two or more cells into one large cell.

To merge cells:

1. Select the cells you would like to merge.
2. Click the **Table Tools Layout** tab, then locate the **Merge** group.
3. Click the **Merge Cells** command.

5. The row or column will be deleted.

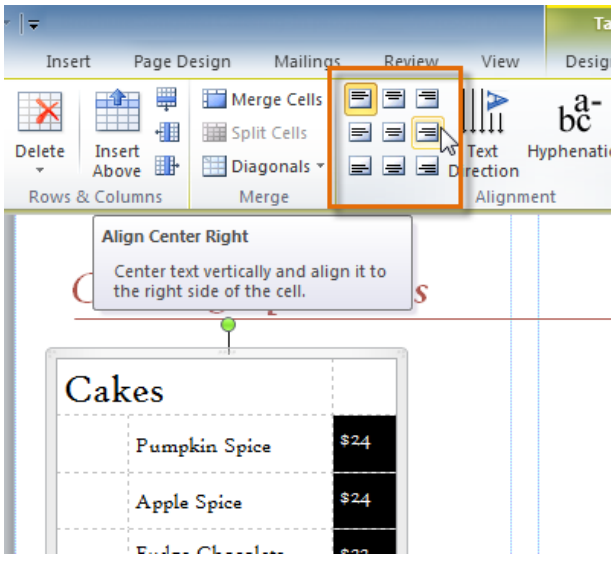


4. The cells will be merged.

You can separate merged cells by selecting them and clicking the **Split Cells** command.

- **Modify cell text alignment:**

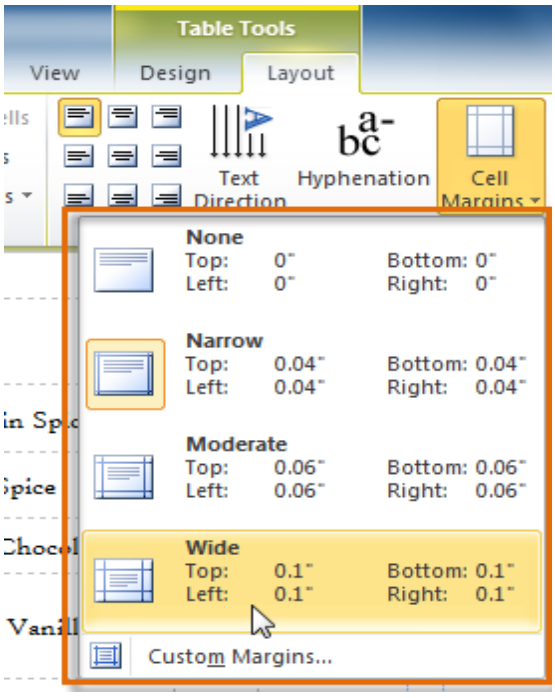
1. Select the cells whose text you want to align. To select the entire table, click the **gray box** surrounding the outer edge of the table.
2. Click the **Table Tools Layout** tab, then locate the **Alignment** group.
3. Select one of the nine **alignment options**.



4. Your table text will be aligned.

5. Modify cell margins:

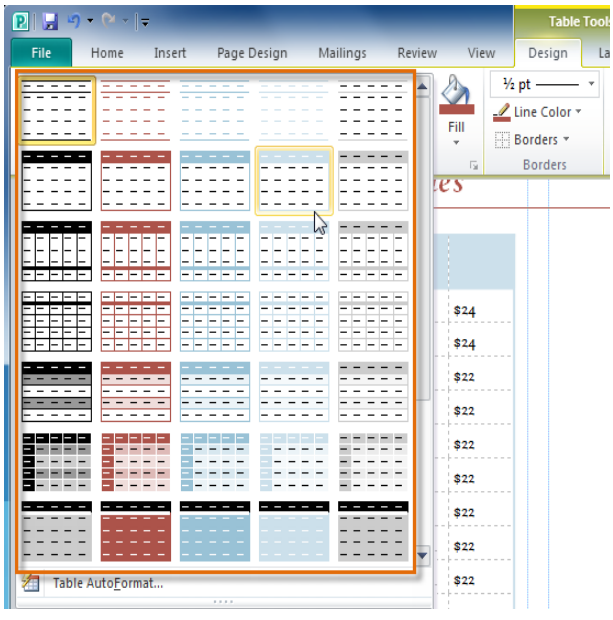
1. Select the cells you wish to set margins for. To select the entire table, click the **gray box** surrounding the outer edge of the table.
2. Click the **Table Tools Layout** tab, then locate the **Alignment** group.
3. Click the **Cell Margins** drop-down command.
4. A drop-down list will appear. Select the desired margins.



5. The new margins will be applied.

- **Apply a table style:**

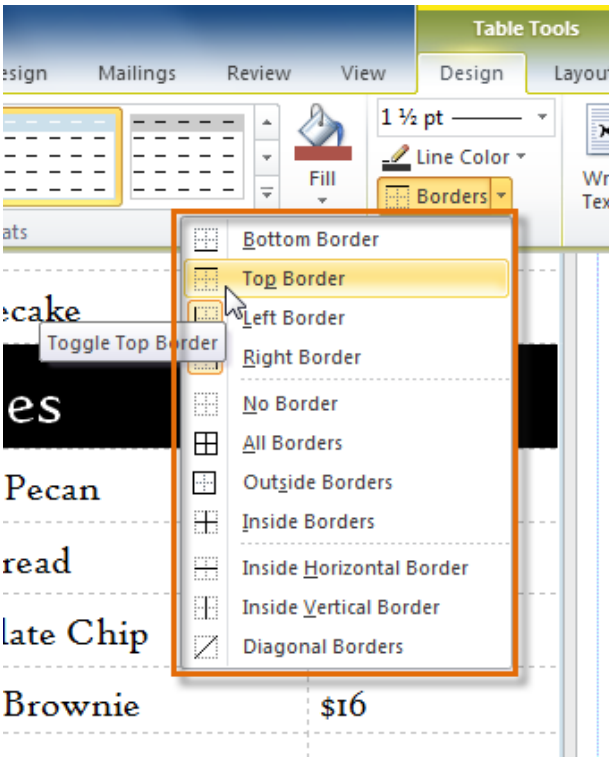
1. Click anywhere on the table, then select the **Table Tools Design** tab and locate the **Table Formats** group.
2. Click the **More Table Styles** drop-down arrow to see all available table styles.
3. Hover the mouse over the various styles to see a live preview.



4. Select the desired style. The table style will appear in the document.

5. Add borders to a table:

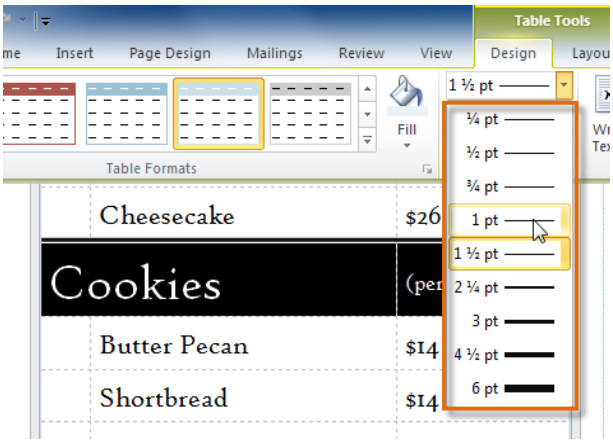
1. Select the cells you wish to add a border to. If you wish to add a border to the entire table, click the **gray box** surrounding the outer edge of the table.
2. Click the **Table Tools Design** tab, then locate the **Borders** group.
3. Click the **Borders** drop-down command.
4. From the drop-down menu, select the desired border.



5. The border will be applied.

6. Change the appearance of borders:

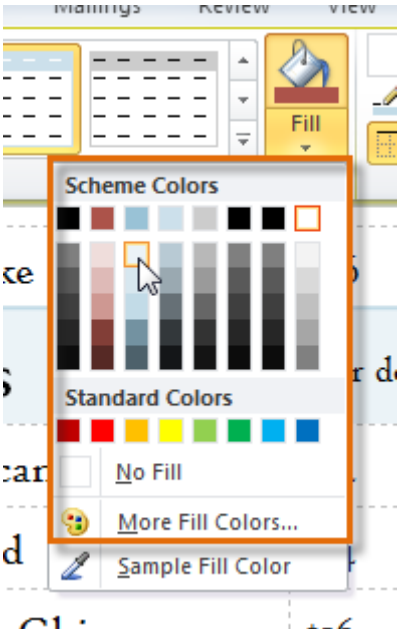
1. Select the cells whose borders you wish to modify, then click the **Table Tools Design** tab and locate the **Borders** group.
2. Click the **Line Weight** drop-down arrow.
3. Select a new line weight from the drop-down list.



4. Click the **Line Color** drop-down command.
5. Select a new line color.
6. **Double-click** the **Borders** command.
7. Changes to the border will be applied.

- **Add a cell fill color:**

1. Select the cell or cells you wish to add a fill color to, then click the **Table Tools Design** tab and locate the **Table Formats** group.
2. Click the **Fill** drop-down command.
3. Select the desired cell fill color.



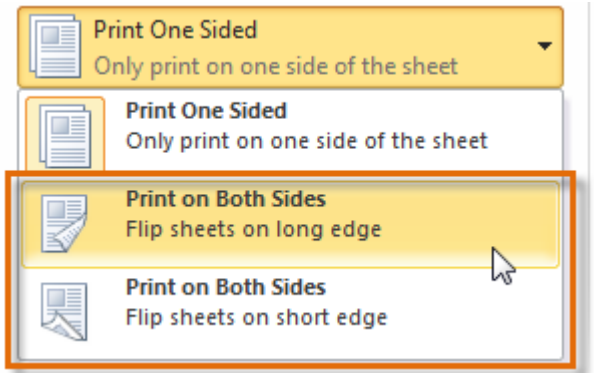
4. The fill color will be applied.

7.18 Printing and Publishing

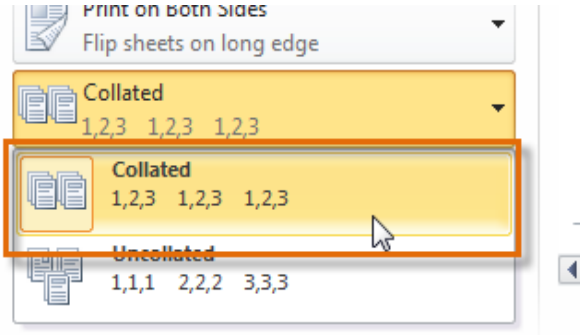
Before you print your publication, take a moment to review the Publisher printing **options** and **settings**. These options give you the ability to control exactly how your publication prints. If you'd rather not print your publication, Publisher also offers a way to publish **electronically**.**Print settings**
Publisher offers a variety of print settings you can modify to suit your needs. Among these are two tools for advanced printing tasks: **double-sided printing** and **collating**.

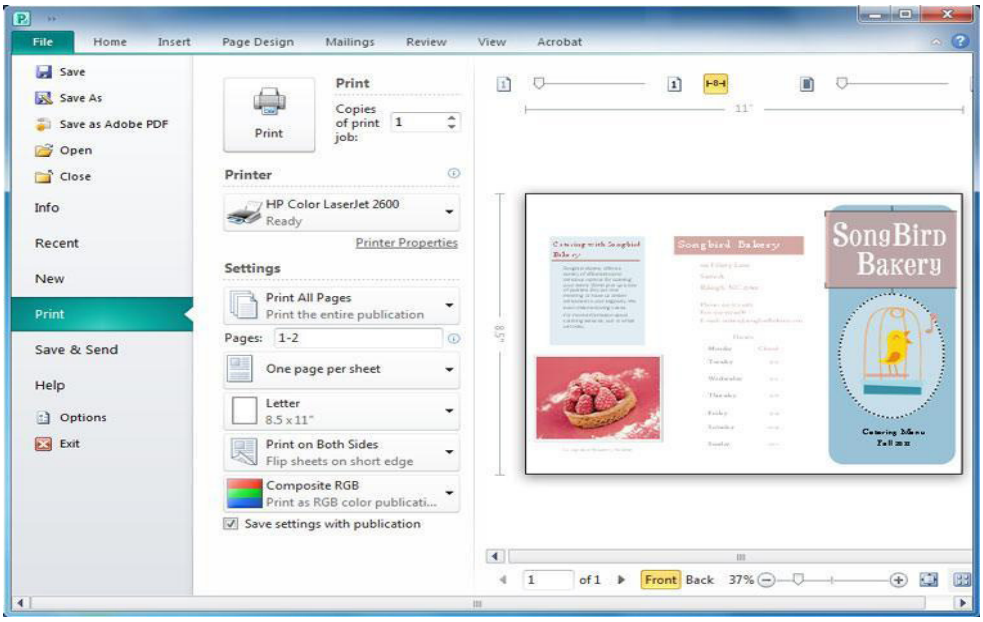
- **Double-sided printing**
  Double-sided printing allows you to print on both the front and back of each sheet of paper. Publisher gives you two choices for double-sided printing: You can flip, or turn, the page on the **long side** of the page or the **short side**.

  If you're not sure how flipping the page on each side affects your printed publication, you can preview your double-sided printing with the transparent view slider, which is explained in the interactive below. You can also print a page of your publication and fold, staple, or otherwise prepare it as planned. If the reverse side of your page is upside down, choose the other option.



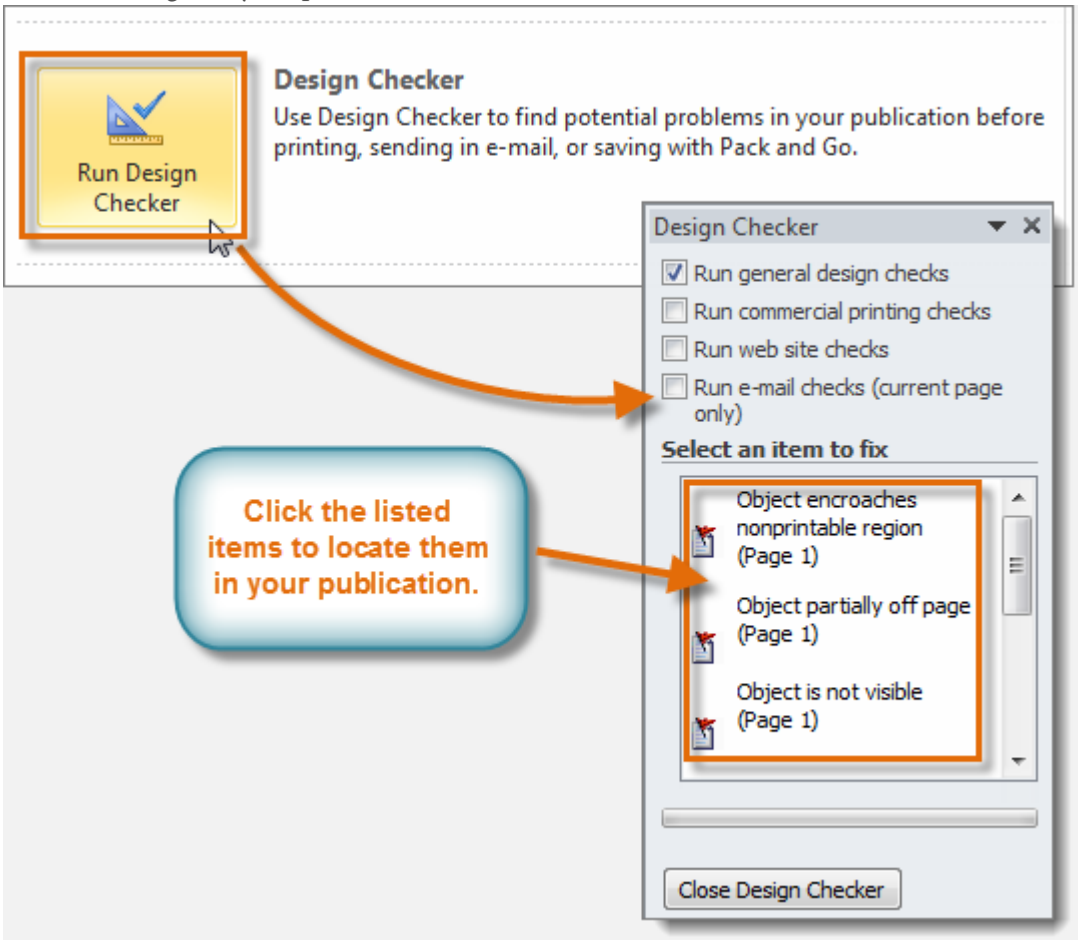
- **Collating**
  The **collated printing** option lets you **assemble** copies of your publication with all pages in the correct **order**. By automatically grouping individual copies of your publication, **collating** can save you a lot of time and effort.





Before you print, review your print settings, and print a final test copy of your publication. You should also consider running the **Design Checker**. The Design Checker is a tool that helps you **find and fix problems** in your publication that may lead to printing errors.

- To run the **Design Checker**, go to the **Info** tab in **Backstage view** and click the **Run Design Checker** button. The **Design Checker pane** will appear to the right of your publication.



- **Publishing electronically**

Depending on the purpose of your publication, you may decide to publish it **electronically** and distribute it **online**. Publisher offers two ways to do this. You can either:

- Publish as a **PDF** and attach the file to an email or upload it to a website
- Publish as **HTML**, which Publisher then **embeds** directly into an email

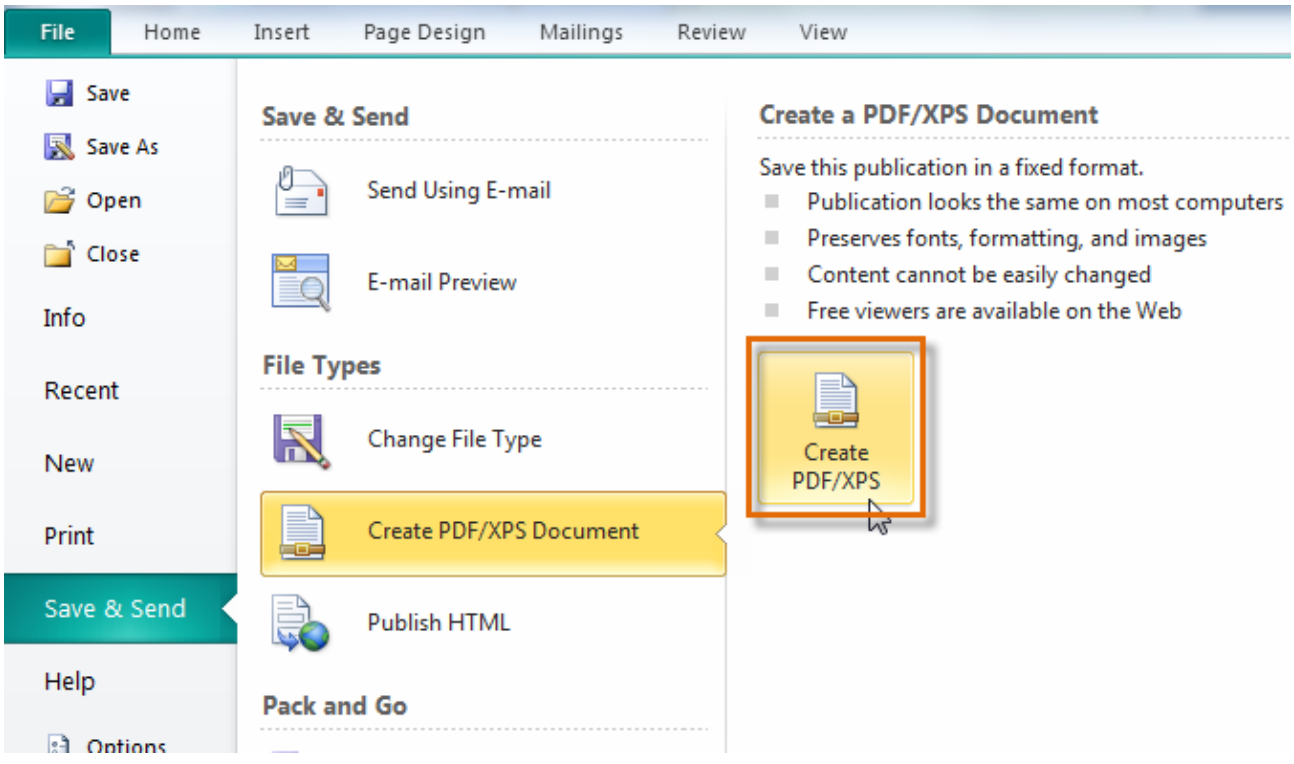
Although Publisher promotes the HTML option as useful, **it is almost always better to convert your publication into a PDF**. This is because the PDF option is better at presenting your publication the way you designed it. Publications saved as HTML can lose some of their formatting and may not include custom fonts and images.

However, PDFs aren't perfect either. Depending on the type of publication you're working with, the PDF version may not be easy to browse and read. For example, while you technically can convert a

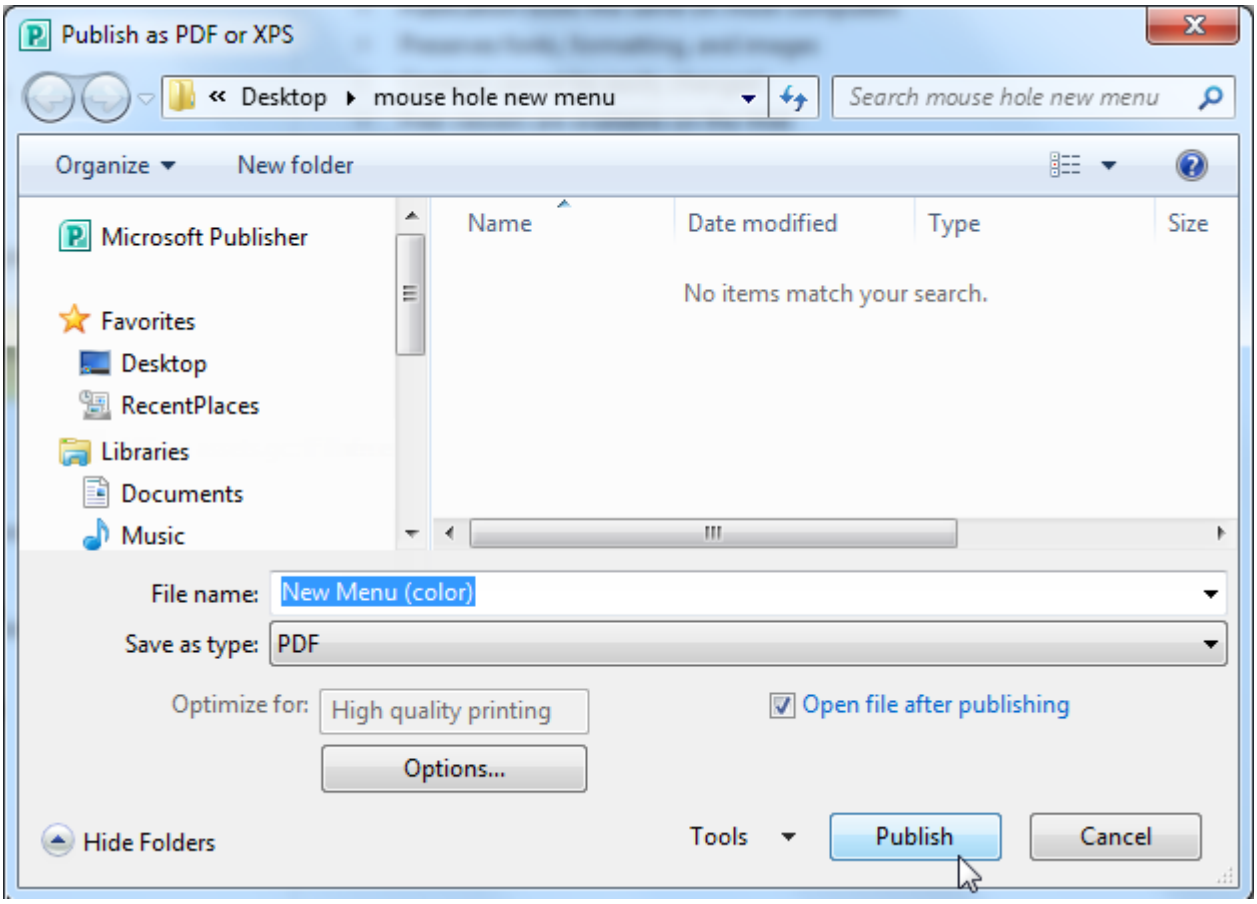
brochure to a PDF, the panels will not be lined up as they would be in a printed and folded version. If you're not sure whether or not your publication is suitable for delivery as a PDF, publish a test copy early in the design process.

To publish as a PDF:

1. Navigate to **Backstage view**, then select the **Save & Send** tab.
2. Select **Create PDF/XPS Document**, then click the **Create PDF/XPS** button in the right pane.



3. The **Publish as PDF or XPS** dialog box will open. Browse for and select the location where you wish to save your PDF, then type a **name**.
4. Click **Publish**.



5. Your PDF will be created and opened. Make sure to double-check for any mistakes before sharing it.

7.19 Learning Activities

You have been asked by your employer to prepare a professional document.

Required:

1. Create desktop publishing documents using different designs, elements, layouts and styles.
    i. Add and rearrange pages
    ii. Modify page layouts
    iii. Insert objects and pictures
    iv. Insert and format tables
2. Publish and print the document developed.

7.20 Self-Assessment Questions and Activities

1. What is the role of desktop publishing designs, elements, layouts and styles?
2. What are the critical factors to consider in the preparation of professional document?

7.21 References

- Sandra Cable, Steven M. Freund, Ellen Monk, Susan L. Sebok, Joy L. Starks (2019), Shelly Cashman Series Microsoft® Office 365 & Publisher 2019 Comprehensive, 1st Edition, eBook
- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.

8.0 COMPUTER NETWORKS, INTERNET AND EMAILS

8.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Identify Computer networks
ii. Describe Network configurations
iii. Describe the role of the internet
iv. Conduct searchers on the internet
v. Use emails for communication

8.2 Introduction

The topic introduces students to the concepts and terminology associated with computer networks. Issues related to networks are also discussed. Students are exposed to networking devices and applications. With the prominence of the Internet in our personal and professional lives today, this topic empowers students to appreciate how to use the internet in facilitating business. The unit module highlights how to conduct research on the internet using different browsers and how to communicate using different email platforms. Students learn how officially communicate using emails.

8.3 Overview of Computer Networks

A computer network is a collection of computers and other hardware devices connected so users can share hardware, software, and data, and electronically communicate.

Advantages of Networks

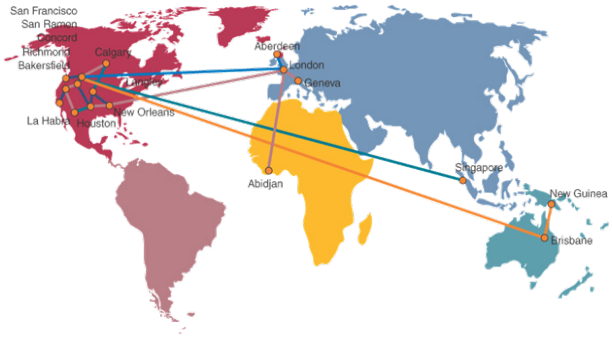
- Sharing of peripheral devices e.g. printers, HDD, scanners, etc.
- Sharing of programs and data
- Better communications e.g. e-mail.
- Security of information

Disadvantages of Networks

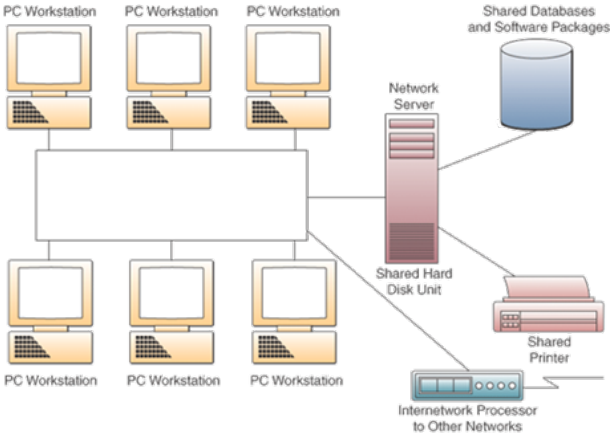
- If the network stops operating, then it may not be possible to access various resources
- Users work-throughput becomes dependent upon network and the skill of the systems manager
- It is difficult to make the system secure from hackers, novices or industrial espionage
- Decisions on resource planning tend to become centralized, for example, what word processor is used, what printers are bought, etc.
- Networks that have grown with little thought can be inefficient in the long term.

8.4 Types of Networks

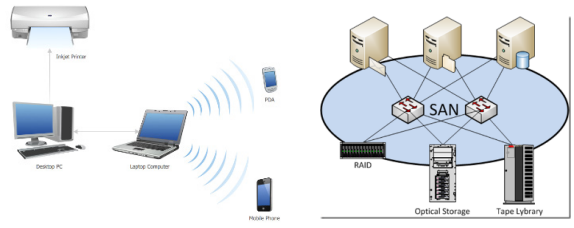
- Wide Area Network (WAN): - communications network that covers a wide geographical area, such as a state or a country.



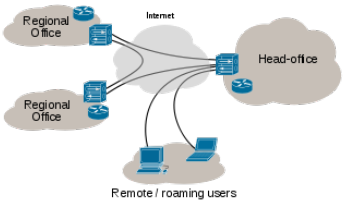
- Metropolitan Area Network (MAN): - communication network covering a geographic area the size of a city.
- Local Area Network (LAN): - privately owned communication network that serves users within a confined geographical area.



- Other Types
  - *Personal area network*
  - *Storage area network*
  - *Virtual private network*



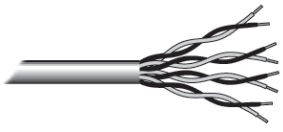
Internet VPN



8.5 Computer Media

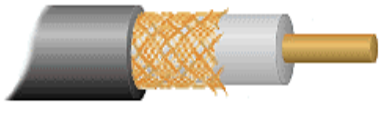
- Communication Media provides communications channel between nodes
    - *Hard Wired Methods*

1. Twisted Pair Wire: - type of communication channel consisting of two strands of insulated copper wire, twisted around each other in pairs.



Advantage: Easy to string
Cheap
Disadvantage: Subject to interference
= static

2. Coaxial cables – This has a Single copper conductor at the centre and a Plastic insulation layer. It is thus highly resistant to interference



Advantage: Not susceptible to interference
Transmits faster
Disadvantage: Heavy & bulky Needs booster over distance

3. Optic Fibre - Centre core made of glass or plastic fibre

Advantage: Smaller , Lighter,Faster (speed of light!)
No interference
Disadvantage: Expensive Harder to install and modify

4. Wireless

- **infrared, radio**

Advantage: Flexible
Portable
Disadvantage: Slower data transfer than hard-wired method
Subject to interference

- **Microwave**

Advantage: Speed of light
Disadvantage: Line-of-sight only

- **Satellite**

Advantage: Always in sight
Disadvantage: Expensive uplink and downlink facilities

8.6 Network Devices

This involves the hardware components associated with networking namely:

- *Network Interface Card (NIC):* - circuit board inserted into an expansion slot

in a microcomputer that enable it to send and receive messages on a network.

- *Switches:* - Switches are an expansion of hubs. They help connect different network segments together. The diagram below illustrates how switches and hubs work together. Switches generally Keep track of data packets
- *Routers:* - Connects any number of different Networks. Using protocols, a router can determine where packets should go and figure out the best route to get there. *Without routers, the Internet (which is essentially different networks connected) could not exist.*

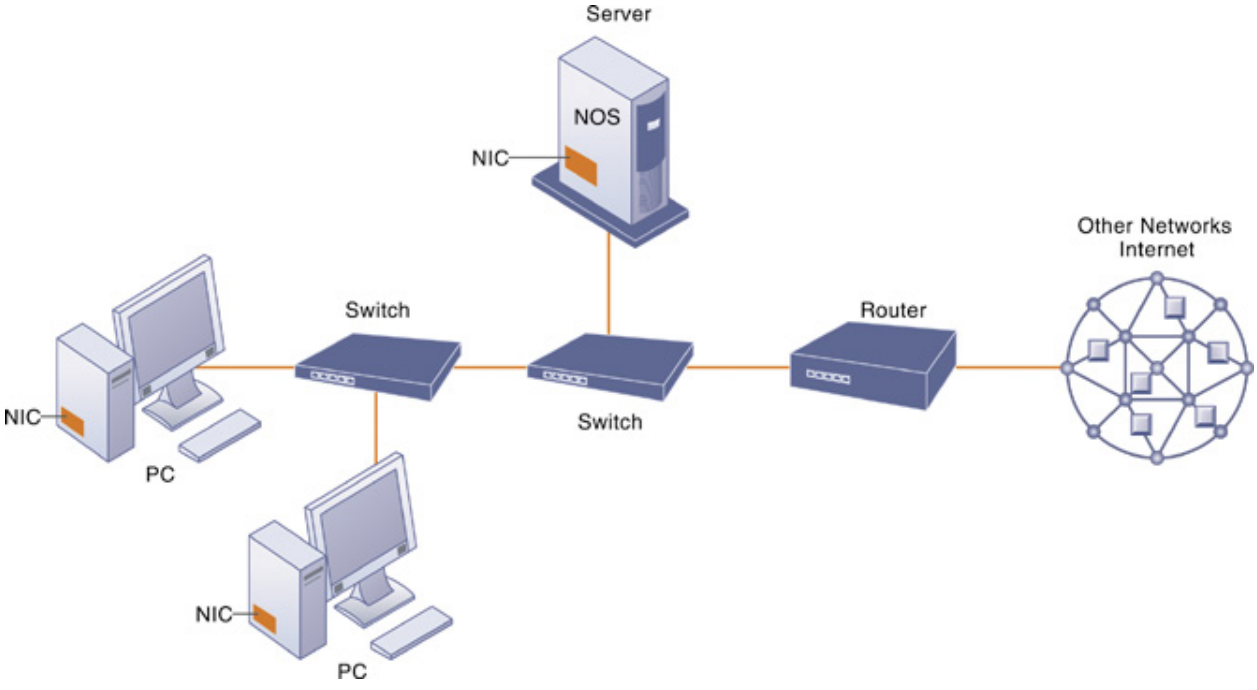
NB: Although bridges are still found in some networks, bridges are no longer being installed as new devices. Switches are replacing bridges and hubs. Thus, a typical network will be made up of switches and a router.

- *Band Width* - The amount of data that can be transferred in a given period of time. Defines Network Speed, measured in Kbps.
- *Kilobits per second (kbps):* unit of measuring data transmission speeds

8.8 Network Configuration

Network configuration is the process of assigning network settings, policies, flows, and controls.

Network monitoring is a function of network management that monitors a network and alerts network administrators to potential issues. The thresholds or conditions for alerting the administrator can be configured based on network traffic flow and business needs. When issues do occur, networking configuration management allows the administrator to quickly correct the problem by modifying the configuration or adding more network resources.



8.7 Network Terminologies

- *Node:* any device that is attached to a network
- *IP Address* – Number used for Node identification
- *Packet:* fixed-length block of data for transmission. It also contains instructions about the destination of the packet.

Configuration manager - Network configuration can also be automated and managed via a centralized configuration manager network configuration manager, further reducing manual IT workload and making it easier to:

- *Maintain* a network
- *Make* configuration changes
- *Relaunch* devices
- *Track* and report data

Benefits of Network Configuration

The right network configuration is essential to supporting the flow of traffic through a network, and it can also support and enhance network security and improve network stability. Network configuration tools can provide a number of benefits, including:

- Automated data tracking and reporting, allowing administrators to spot any configuration changes and potential threats or issues
- An easy way to make bulk changes, such as a blanket password change in a situation where passwords are compromised
- The means to swiftly roll back network settings to a previous configuration
- Reduced downtime, thanks to increased visibility and the ability to quickly identify changes
- Streamlined maintenance and repair of network devices (physical or virtual) and connections
- The ability to relaunch a device when it fails, thanks to centralized storage management of device configurations

Network Configuration Settings

When setting up a network switch and router, it's important to customize settings and apply all necessary configurations to ensure that your network will work properly. Some of the configurable settings on a network switch and router include:

- **IP address**—for identification
- **Password**—for added security
- **Channel and band selection**—to improve performance
- **Default gateway**—to make the device visible to network management tools
- **Neighbour discovery**—for added visibility
- **Correct time**—for proper troubleshooting and detailed error logs

8.9 Internet

- *I*nternet: A matrix of networks that connects computers around the world. The Internet is any interconnection of computer network, especially a global interconnection of government, education, and business computer networks, available to the public.
- Intranet: A network that connects computers within a company or organization, perhaps around the world. An Intranet is any interconnection of a computer network, that its access is limited to within that group or organization and is not available to the public.
- Ex*tranet:* A network based on Web technologies that links selected resources of a company's intranet with its customers, suppliers, or **other business partners.** It is a community of interest created by extending an intranet to selected entities external to an organization.

Applications of the internet

- Browsing/surfing - Searching for information. To searching the Internet, we use Search engines such as Bing or Google (www.google.com)
- Communicating – Using Email, Messaging (IM, Text), VoiP – Skype, Video Conferencing/NetMeetings, Social Networking
- Shopping - Ecommerce and Auctions
- Personal Finances – Such as Bill Pay, Banking, and Investing
- Entertainment
- Cloud storage and SaaS

Internet Characteristics

- Geographic Distribution - Global - reaches around the world
- Robust Architecture - Adapts to damage and error
- Speed - Data can travels at near 'c' on copper, fiber, airwaves
- Universal Access - Same functionality to everyone
- Growth Rate - The fastest growing technology ever
- Freedom of Speech - Promotes freedom of speech
- The Digital Advantage - Is digital: can correct errors

Authenticating a site

- Check for the Authors authority in the area
- Ensure the Title of the article is not biased
- Recent Date of publication or date of last revision
- The URL should be the correct one

Requirements for the internet

- A *web browser* is the software (Internet Explorer or Firefox or Google Chrome or Opera or…) that accesses the Internet and displays web pages, accesses e-mail accounts & news groups and can be used to upload files. It is your CLIENT software
- A *Web server* is a computer that stores the web documents that the users access. Your Internet service provider should have a web server on which you can "upload" your web pages. The web server runs SERVER software such as APACHE or Microsoft's IIS (Internet Information Server)
- A *web page* is an Internet "document" that can be accessed by Internet users with an HTML browser. Web pages commonly provide text, pictures, or other graphics, and links to other pages.
- *Uniform Resource Locator (URL),* - a unique address that you must provide to the browser to open a page on the internet. It specifies a transmission protocol and an Internet host (identified by a number). It is used chiefly for moving around on the World Wide Web. Example http://normandy.sandhills.cc.nc.us/cis172/menu.html

8.10 E-Commerce

- Commerce: the exchange of goods or services
- E-commerce: Act of doing business transactions over the Internet or similar technology
- M-commerce: E-commerce carried out via phones and other mobile devices

Advantages of E-Commerce

- Reduced costs - Dotcoms are less expensive than brick-and-mortar stores because there is no physical storefront to maintain
- Increased customer satisfaction - If shopping experience is convenient (open all the time, no driving, etc.)
- Broader customer base (less geographical restrictions)
- Potentially higher sales
- Convenience - Easier comparison shopping
- Higher degree of selection
- Potential cost savings
- Customized products

Disadvantages of E-Commerce

- Pressure to be always open, site always working
- Lost business due to some customer hesitation to shop online
- Risk of fraudulent credit card transactions
- Ease of entry for competitors
- Not being able to see or touch the goods
- Possible expense of returning merchandise

E-Commerce Models

- *Bu*siness-to-consumer (B2C): An e-commerce model in which a business provides goods or services to consumers. Wholesaler/manufacturer to end user
- Business-to-business (B2B): An e-commerce model in which a business provides goods or services to other businesses. Manufacturer to wholesaler or wholesaler to retailer
- Consumer-to-consumer (C2C): An e-commerce model in which a consumer provides goods or services to other consumers. End users sell to end users
- Business-to-government (B2G): An e-commerce mode n which a business provides goods and services to government organizations

8.11 Electronic Mail (E-Mail) Concept

Email (electronic mail) is a way to **send and receive messages** across the Internet. It›s similar to traditional post office mail, but it is electronic with digital content replacing paper content and IP addresses replacing postal addresses.

Email advantages

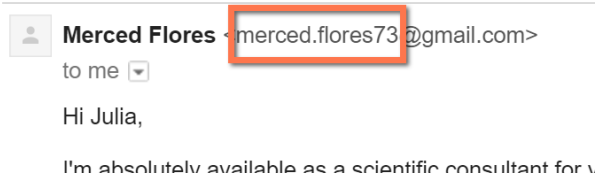
- **Productivity tools**: Email is usually packaged with a calendar, address book, instant messaging, and more for convenience and productivity.
- **Access to web services**: If you want to sign up for an account like Facebook or order products from services like Amazon, you will need an email address so you can be safely identified and contacted.
- **Easy mail management**: Email service providers have tools that allow you to file, label, prioritize, find, group, and filter your emails for easy management. You can even easily control spam, or junk email.
- **Privacy**: Your email is delivered to your

own personal and private account with a password required to access and view emails.

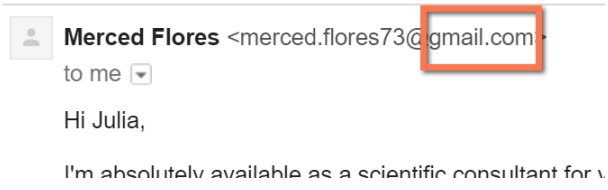
- **Communication with multiple people**: You can send an email to multiple people at once, giving you the option to include as few as or as many people as you want in a conversation.
- **Accessible anywhere at any time**: You don't have to be at home to get your mail. You can access it from any computer or mobile device that has an Internet connection.

Email accounts

- To receive emails, you will need an **email account** and an **email address**. Also, if you want to send emails to other people, you will need to obtain their email addresses. It's important to learn how to write email addresses correctly because if you do not enter them exactly right, your emails will not be delivered or might be delivered to the wrong person.
- Email addresses are always written in a standard format that includes a **username**, the **@** (at) symbol, and the **email provider's domain**.
  - The **username** is the name you choose to identify yourself.



  - The **email provider** is the website that hosts your email account.



  - Some businesses and organizations use email addresses with their own website domain.

Email providers

- **Free web-based email service**, also known as webmail services exist. Anyone can use these services.
- Today, the top three webmail providers are **Yahoo!**, Microsoft's Outlook.com (previously Hotmail), and Google's **Gmail**.

Gmail

Outlook

YAHOO! MAIL

Parts of the email

An email contains three parts: envelope, header, and body.

- **Envelope -** An email is wrapped in an envelope by the first Message Transfer Agent (MTA). It contains the delivery address, return address, and failed address on the envelope. This information is used to forward or deliver the email. An envelope determines where the email will be delivered or to whom it will be returned if it can't be delivered. The details of the Envelopes are invisible to users but are visible to the email applications (email clients).
- **Header -** The header keeps a record of all information about the email such as from which address it was sent, the date and time when it was sent, by which MTA it was received and forwarded, and when it was delivered to the destination. Email client programs usually hide headers from the user while displaying the email contents.
- **Body -** The body contains the message text and attachments. Originally, emails were developed for text messages. Over time, they started supporting several other formatting techniques such as HTML and encoding features using MIME (Multipurpose Internet Mail Extensions) features. allows us to format and encode the email text with more advanced formatting techniques such as HTML.

Types of email accounts

There are several different email account technologies, and you should know which type you have (or what kind you want, if you're still looking for an email provider) because the setup and the

choices of email programs you can use are different for each:

- **Web-based:** This type of email account is designed to be used primarily with a web-based interface. Many of the free email services are this type, including Gmail, Hotmail (now part of Outlook.com), and Yahoo! Mail. This is the easiest, most no-fuss type, and is great for casual users who don't send many messages and don't want to fool with setting up an email program.
- **POP3:** This type of email account is designed to be used with an email client, although the provider may also allow web access too. This type of account downloads your received messages to your local PC when it connects to the mail server. A POP3 account is tethered to a particular computer where the received mail is stored; it's best for someone who uses the same computer all or most of the time. POP3 stands for Post Office Protocol version 3.
- **IMAP:** This type of email account, like POP3, is also designed to be use with an email client. It does not download received messages, though; it reads them from the server, like web-based email does. That way, you can browse your mailbox from multiple computers and still see the full set of emails. The downside is that you can't browse your mail if you aren't connected to the Internet. IMAP stands for Internet Mail Access Protocol.
- **EAS:** This type is similar to IMAP except it is used by Exchange servers. It is a popular type of account for groupware and corporate accounts, as well as for mail delivered to smart phones. EAS stands for Exchange ActiveSync.

Email Etiquette

You should adopt courteous and polite habits when writing your email messages.
Some of these are listed below.

- *Keep it Short* - Reading text on the screen is harder (and arguably) more hazardous than reading on paper. Keep your emails short, sweet and to the point and your recipients will love you more.
- Check Your Spelling - When you have composed your message spend a bit more time using the spell checker to check the spelling. Then re-read the message and ensure that the spell checker has done its job.
- Use meaningful Subject Lines - Always put meaningful text in the subject line of a message, such as "Sales Figures for June", and so on. Many people use the subject to prioritize reading or search for emails
- Be polite - Flaming is the act of telling somebody off using an email – and it should NEVER be done. If you have a gripe with someone, contact them over the phone or face to face, but never through an email. The big danger with email is that it can be read over and over again. In email shouting is done by using capital letters. Don't use capital letters (except in the proper literary way for sentence starts, names, and the like) unless you specifically mean to shout something and be offensive.
- Protect The Privacy of Others - If you are sending a message to many people and it is not necessary for the recipients to know who else received the message, put their addresses in the Bcc field and put your own address in the To field – Outlook needs to have at least one address in the To field.

8.12 Learning Activities

Identify a computer in your office or a laptop for use.

Required:

1. Undertake cable termination and router configuration
2. Use different search techniques to search for information on the internet related to your training program.
3. Create email and send email with attachments.

8.13 Self-Assessment Questions and Activities

1. What are the media communication techniques that a firm in the freight and logistics sector can use?
2. What is the importance of emails, internet and e-commerce? How can a clearing and forwarding firm use for improving business performance?

8.14 References

Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.

9.0 INFORMATION TECHNOLOGY SECURITY

9.1 Specific Learning Outcomes

At the end of the topic, the trainee should be able to:

i. Identify Security and privacy threats (Information, Hardware, and Software)
ii. Preventing computer crimes
iii. Data Protection laws and copyright issues
iv. Health concerns for computer users

9.2 Introduction

The increasing use of computers in our society opens up new opportunities for threats such as data loss due to system malfunctions or hardware theft, software piracy, and digital counterfeiting. This topic helps students appreciate computer-related security and privacy concerns and identify solutions to these concerns. Aspects of computer ethics and etiquette are also examined. The topic concludes by examining common health issues associated with computers and ways of preventing them.

9.3 Overview of Information Technology Security

There are a number of security concerns related to computers that users should be aware of:

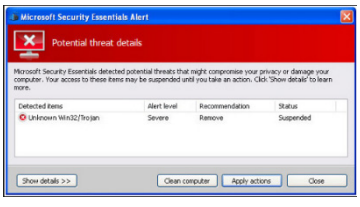
- Hardware - Losing the computer/device entirely
- Software - Risks of acquiring pirated or counterfeited products
- Data - Loss of Privacy
- User - Being watched

9.4 Hardware Security

- Hardware loss: Can occur when a personal computer, USB flash drive, mobile device, or other piece of hardware is stolen, lost, or damaged
- Protecting Against Hardware calls for:
    - The use of door and computer equipment locks
    - Use of computer tracking software: Used to find a computer or other hardware devices after it is lost or stolen
    - Proper hardware care by avoiding misuse, using protective cases, Surge suppressors, Uninterruptible power supplies (UPSs), and maintaining a clean environment.

9.5 Software Security

- Software piracy: Unauthorized copying of a computer program. Protection Against Software Piracy and Digital Counterfeiting calls for:
    - The use of Software antipiracy tools
    - Educating businesses and consumers
    - Enforcing Registration code or product key
    - Checking validity of a software installation before upgrades or other resources related to the program can be used
- Malware - Malware, short for "malicious software", is any software designed to infiltrate a computer system without the owner's knowledge. There are many kinds of malware. Popular kinds include:
    - Virus is a potentially damaging computer program. Can spread and damage files
    - Worm copies itself repeatedly, using up resources and possibly shutting down computer or network
- Protection calls for the use of antivirus



9.6 Data Security

There are three core elements to data security that all organizations should adhere to: Confidentiality, Integrity, and Availability. These concepts are also referred to as the **CIA Triad**, functioning as a security model and framework for top-notch data security.

- **Confidentiality**. Ensures that data is

accessed only by authorized users with the proper credentials.

- **Integrity**. Ensure that all data stored is reliable, accurate, and not subject to unwarranted changes.
- **Availability**. Ensures that data is readily — and safely — accessible and available for ongoing business needs.

Protection mechanisms include:

- To ensure Confidentiality – Computers add additional privacy challenges where too much information is revealed though surveillance, and Electronic Profiling by Marketing database or Government database. we need to safeguard against loss of privacy. Be cautious of revealing personal information. Supply only the required information in registration forms. Delete your browsing history and e-mail settings when using a public computer. Properly dispose of hardware and outdated data.

FIGURE 15-21
Media disposal.
When disposing of CDs, DVDs, and other storage media, the media should be shredded to ensure the information on the media is destroyed.

- To ensure Integrity - Computers add additional privacy challenges where information gets to the wrong hands though hackers. Protecting the Integrity of Personal Information calls for safeguarding your e-mail address. Use a throw-away e-mail address (an extra e-mail address that you can use for activities that might result in spam).
- To ensure availability is achieved - Have backup and disaster recovery plans.

9.7 User Security

- Computer monitoring software can be used to record an individual's personal behavior or computer usage either by capturing images of the screen or recording the actual keystrokes. Hackers (unauthorized users) can capture usernames and passwords to perform malicious acts to the user such as commit fraud.
- **Cybercrime** is committed by cybercriminals or hackers who want to make money. Here are some specific examples of the different types of cybercrime that can be committed against a user:
  - Email and internet fraud.
  - Identity fraud (where personal information is stolen and used).
  - Theft of financial or card payment data.
  - Theft and sale of corporate data.
  - Cyberextortion (demanding money to prevent a threatened attack)
- To protect the user, monitoring software should be installed cautiously and proper authentication mechanisms such as firewalls put in place. The user should also safeguard their passwords.

9.8 Data Protection Law

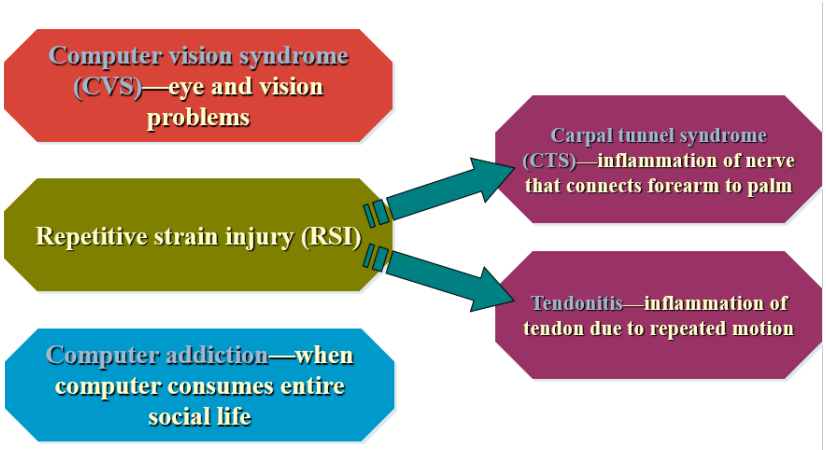
Data Protection gives you some control over the processing of your personal data. It imposes rules upon data controllers and grants rights to data subject. These rules apply to pretty much every personal data processing operation; the rights can be invoked by any living person.

Data protection is built around four rules:

1. There has to be a legitimate basis for the data processing to take place;
2. The processing has to comply with the principles of data protection;
3. The processing has to comply with certain sectoral rules such as the prohibition on the processing of sensitive personal data; and,
4. The rights of the subject, such as access and objection, have to be respected.

9.9 Health Concerns of Computer Use

- What are some health concerns of computer users?



- Protection mechanisms include
    - Take frequent breaks during computer session
    - Use wrist rest
    - Exercise hands and arms
    - Adjust the lighting if possible

- Apply Ergonomics - Applied science devoted to comfort, efficiency, and safety in workplace. Ergonomics refers to minimizing injury or discomfort while using the computer. These include:
    - Position monitor correctly
    - Use adjustable chair
    - Assume proper position while typing
    - Take breaks
    - Ensure adequate lighting

9.10 Learning Activities

Arrange and plan an interview with the Manager, Information Communication and Technology of a firm in the freight and logistics sector.

Required:

1. The ICT protection measures inherent in the organization
2. Strategies the organization uses to protects its employees who use computers
3. The laws related to ICT and data protection in your country and how the organization adheres to and implements the laws.

9.11 Self-Assessment Questions and Activities

1. What are the different types of information technology security threats?
2. What are the computer ethical issues and ICT Laws in the EAC country where you are located?
3. How should an individual protect themselves from health effects of sustained consumer use?

9.12 References

- Morley, D., & Parker, C. S. (2014). Understanding computers: Today and tomorrow, comprehensive. Cengage Learning.

NOTES

This publication was sponsored by:

TRADE MARK EAST AFRICA

Growing Prosperity Through Trade

www.trademarkea.com

Federation of East African Freight Forwarders Associations (FEAFFA)

Hillcrest Court, Waiyaki Way, Slip Road, Westlands
P.O. Box 22694 – 00400 Tom Mboya, Nairobi Kenya
Tel: +254 (0) 738 150 673, +254 (0) 738 165 318
Email: info@feaffa.com | Website: www.feaffa.com

Federation of East African Freight Forwarders Associations (FEAFFA)
@FEAFFA
/FEAFFA