GC ICT
AND COMPUTER
TRAINING CENTRE

Teaching current ICT Skills

ICT

CURRICULUM

DEVELOPMENT

INTRONDUCTION TO COMPUTER

COMPUTER: is an electronic device or set of device that works under control of installed programs. It accepts raw data from outside; it processes the data so as to give out information.

DATA: is any raw fact or figures that may not make sense to the user

INFORMATION: is the processed or refined product that can be understood by the user

QUALITIES OF THE COMPUTER

Automatic: this means that after the computer has been commanded to perform its task it requires minimal human intervention.

Data processor: computer has been designed to receive raw facts and figures that may not be meaningful to the user and then analyses it into information which the user can understand

Electronic: computers can be equated to household appliances such as the TV, radio, cameras, etc by the fact that they have capacitors, transistors, chips, circuit boards etc

Accuracy: since they are programmed devices, the writing of the instruction will repeatedly recur

Efficiency: compared to any other machine, computer will utilize time and effort to achieve high results

Secrecy: with the use of password

Versatile: Computers are multipurpose, they are compatible to accommodate and operate devices of different technologies e.g: watching T.V

Advantages of computer

- ❖ Eases filing system in the office
- ❖ Speed
- ❖ Enhances communication
- ❖ Enhances business
- ❖ Enhances education through e learning and e teaching
- ❖ Enhances industrial production through computer aided manufacturer(CAM)
- ❖ Enhances entertainment
- ❖ Create self-employment

Disadvantages of computers

- ❖ Expensive
- ❖ Cuts down on employment especially when computers are introduced where manual work existed
- ❖ Computers needs experts and skills to operate and maintain
- ❖ Health hazard e. g back ache, eye sight etc
- ❖ Volatile: they can lose huge and crucial information
- ❖ Sensitivity to dust, humidity, heat, water
- ❖ Addictive especially in games, chatting
- ❖ Most computers need electrical power
- ❖ Computer have encouraged laziness due to over reliance

CLASSIFICATION OF COMPUTERS

Computer may be classified according to functionality, physical size/power processing, and purpose:

Functionality

- ❖ **Analogue (analog) computers**

These computer deal with analog data. Analog data is that which continuous and progressively changes value over time. These computers respond to natural occurrences' such as temperature, speed and pressure. They may be used in manufacturing industries to check finances condition

- ❖ **Digital computer**

These computers handle digital data. Digital in that is it discrete. These means the data can be represented as distinct values I.e. 1 or 0

- ❖ **Hybrid computer**

These kind of computers would handle both analog and digital data.

Purpose

Under purpose computer there shall be two of them; general purpose and special purpose computers.

- ❖ **General purpose computer**

Designed t, perform no of tasks, these computers are installed with programs which will enable them to handle a variety of duties. For instance, document processing calculation, accounting etc.

- ❖ **Special purpose computer**

They are designed to perform only one special task. For instance, robots in CAMs belongs to this kind of a computer.

Physical size

❖ **Super computer**

They are the biggest in size computers. They are fastest in term of speed, the most powerful terms of the tasks they can perform at particular nanosecond and therefore the most expensive only a few nations around the world can afford it. They would be used in complex computer engineering and also serve other small computers in complex network.

❖ **Main frame computers**

They are also very larger, powerful and expensive but lower than super. They are stationary in the control room. They perform complex mathematical calculations. They a large storage capacity and can support a number of peripheral thus require no of people to operate one. They ideal in banks, airport, government, agencies and large organization

❖ **Mini computers**

These are down scaled versions of the mainframe computers. Have less speed, fewer peripherals, less powerful etc. they can be found in research institution, engineering planes, scientific laboratories etc.

❖ **Micro computers**

These consists of relatively small, cheap and not so complicated a computer. They are also transferable. They pose small silicon chip that analysis data. They are generally used in day to day duties in homes, hospitals, schools etc. they are sub grouped into;

❖ **Personal computer (PC)**

PC is operated by one person for most of it peripheral are single e. g mouse, CPU, keyboard etc. they are usually placed on top of desk when operating thus dubbed desk top computer

❖ **Laptop/notebook**

These are small convenient and easily portable computer. They are placed on the lap when operating. Laptops are multicolored and bigger than notebook. Most of these computers are extremely expensive due to their convenience, portability and manufacturing technology. They are ideal for use by managers, journalists, researchers etc.

❖ **Palmtop computers/PDAs**

These are tiny pockets computers usually placed on the palm when operating. In most cases they are incorporated into mobile phones. They are ideal for business executive.

GENERATIONS OF COMPUTERS

❖ First generation of computers

During the period of 1940 to 1956 first generation of computers were developed. The first generation computers used vacuum tubes for circuitry and magnetic drums for memory, and were often enormous, taking up entire rooms. The vacuum tube was developed by Lee DeForest. A vacuum tube is a device generally used to amplify a signal by controlling the movement of electrons in an evacuated space. First generation computers were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat, which was often the cause of malfunctions

Characteristics

1) First generation computers were based on vacuum tubes   .
2) The operating systems of the first generation computers were very slow   .
3) They were very large in size   .
4) Production of the heat was in large amount in first generation computers.
5) Machine language was used for programming   .
6) First generation computers were unreliable   .
7) They were difficult to program and use.

❖ Second generation computers

During the period of 1956 to 1963 second generation of computers were developed. The second generation computers emerged with development of Transistors. The transistor was invented in 1947 by three scientists J. Bardeen, H.W. Brattain and W. Shockley. A transistor is a small device made up of semiconductor material like germanium and silicon. Even though the Transistor were developed in 1947 but was not widely used until the end of 50s. The transistor made the second generation computers faster, smaller, cheaper, more energy-efficient and more reliable than their first-generation computers. Even though the transistor used in the computer generated enormous amount of heat which ultimately would lead to the damage of the computers but was far better than vacuum tubes.

Second generation computers used the low level language i.e. machine level language and assembly language which made the programmers easier to specify the instructions. Later on High level language programming were introduced such as COBOL and FORTRAN. Magnetic core was used as primary storage. Second generation computer has faster input /output devices which thus brought improvement in the computer.

Characteristics of the Second Generation of Computers

- ➢ Transistors were used in place of vacuum tubes.
- ➢ Second generation computers were smaller in comparison with the first generation computers.
- ➢ They were faster in comparison with the first generation computers.
- ➢ They generated less heat and were less prone to failure.
- ➢ They took comparatively less computational time.\
- ➢ Assembly language was used for programming.
- ➢ Second generation computers have faster input/output devices.

- ❖ **Third generation computers**

During the period of 1964 to 1971 Third generation computers were developed. The third generation computers emerged with the development of IC (Integrated Circuits). The invention of the IC was the greatest achievement done in the period of third generation of computers. IC was invented by Robert Noyce and Jack Kilby in 1958-59. IC is a single component containing a number of transistors. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers.

Keyboards and monitors developed during the period of third generation of computers. The third generation computers interfaced with an operating system, which allowed the device to run many different applications at one time with a central program that monitored the memory.

Characteristics of the Third Generation of Computers

- ➢ IC was used instead of transistors in the third generation computers.
- ➢ Third generation computers were smaller in size and cheaper as compare to the second generation computers
- ➢ They were fast and more reliable
- ➢ High level language was developed
- ➢ Magnetic core and solid states as main storage
- ➢ They were able to reduce computational time and had low maintenance cost
- ➢ Input/output devices became more sophisticated.

- ❖ **Fourth generation computers**

After 1971 the fourth generation computers were built. The fourth generation computers were the extension of third generation technology. The fourth generation computers emerged with development of the VLSI (Very Large Scale Integration). With the help of VLSI technology

microprocessor came into existence. The computers were designed by using microprocessor, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palm of the hand. The fourth generation computers became more powerful, compact, reliable and affordable. As a result, they give rise to personal computer (PC) revolution.

For the first time in 1981 IBM introduced its computer for the home user and in 1984 Apple introduced the Macintosh Microprocessor

Characteristics of the Fourth Generation of Computers

- ➢ The fourth generation computers have microprocessor-based systems
- ➢ They are the cheapest among all the computer generation
- ➢ The speed, accuracy and reliability of the computers were improved in fourth generation computers.
- ➢ Many high-level languages were developed in the fourth generation such as COBOL, FORTRAN, BASIC, and PASCAL and C Language
- ➢ A Further refinement of input/output devices was developed
- ➢ Networking between the systems was developed

Examples of fourth generation computers

IBM 4341, DEC 10, STAR 1000, PUP 11 and APPLE II

- ❖ **Fifth generation computers**

Fifth generation computers are in developmental stage which is based on the artificial intelligence. The goal of the fifth generation is to develop the device which could respond to natural language input and are capable of learning and self-organization. Quantum computation and molecular and nanotechnology will be used in this technology. So we can say that the fifth generation computers will have the power of human intelligence

Characteristics of the Fifth Generation of Computers

- ➢ The fifth generation computers will use super large scale integrated chips
- ➢ They will have artificial intelligence
- ➢ They will be able to recognize image and graphs
- ➢ Fifth generation computer aims to be able to solve highly complex problem including decision   making, logical reasoning
- ➢ They will be able to use more than one CPU for faster processing speed
- ➢ Fifth generation computers are intended to work with natural language

THE COMPUTER SYSTEM

Computer system comprises of all the parts that make computer phenomenon. There three major parts of computer system:

- ✓ **Hardware (devices)**
- ✓ **Software (programs)**
- ✓ **Org ware/ Live ware (user)**

The user is a person who operates the computer

There are three experts

- Computer operator
- Computer programmer
- Computer designer

Hardware

Physical or tangible components of the computer are referred to as hardware. When the computer is shut off, the hardware would remain visible. Hardware are sub grouped into four components namely;

- CPU (processor)
- Input devices
- Output devices
- Storage devices

1. **CPU (central processing unit)**

CPU also referred as the processor, is a small silicon chip housed inside the system unit of a micro-computer which analyses raw data into information. It has been dubbed the computer 'brain' for it coordinates all the activities in the computer. The speed of the CPU is very important for it determine the time to be taken and the amount of task to be carried out by the computer. Modem CPUs range from P1-P4; whereby P4 is fastest. All input, output and peripherals must be attached to the CPU via the motherboard of the system unit.

The CPU is sub-divided into three smaller areas;

- **Control unit (CU)**
- **Arithmetic and logical unit (ALU)**
- **Main memory**

Control unit (CU)

Receive and analyses/interprets all instruction into the computer. Also delegates duties to all other parts in the computer

Arithmetic and logical unit (ALU)

Carries out all arithmetic/calculation in the computer. It also logically compares among the operations in the computer.

Main memory (MM)

It is compartment that holds current data & instruction. It is refers to as the primary storage within the computer. It is sub-divided into;

    a. **ROM (read only memory)**

It is the compartment once data has been written can ever be changed through ordinary computer operation. It is stored permanently .it cannot be upgraded. Information is not volatile I. e it cannot be lost in case of a black out. For this reason, most system file necessary for computer booting are stored here.

    b. **RAM (random access memory)**

Also referred to as type write and ready memory.it is virtual memory. Information is temporarily stored and thus volatile I. e it can be easily erased due to black out if not saved. This memory is upgradeable or expandable thus increasing speed of the computer.

    2. **Input devices**

These are in the devices/ gadgets that enter data and instruction into the computer for processing e. g keyboard, mouse, scanners, joy sticks, microphone and digital cameras.

    3. **Output devices**

These are the devices/ gadgets that relay the processed information out of the computer so that the user can see, view, hear, read etc. example include monitor, visual display unit (VDU) printer, speaker etc.

    4. **Storage device**

These are devices/gadgets capable of holding processed information within the computer example are:

- Hard disk (hard drive/drive c)
- removable devices such as Floppy, diskette, drive a, CD compact disk, DVD digital versatile disk
- Tape drive: resemble ordinary video tapes. They can be used to back up information / data. They are highly durable.

- Flash disk: an external memory stick which can store huge amount of data. This is becoming every ones mobile briefcase if not mobile office and thus rendering the diskette.

STORAGE OF DATA IN COMPUTER

Storage is measured by bytes. Bytes are units which measure space occupied by data information in the computer and storage device. One byte is made up of 8 bits. One bit is made up of 2 digits i. e 1 and 0. In textual data, one byte is equivalent to one character.

1Bit   =1 or 0

8Bits   =1 Byte

1024 Byte   =1 kilobyte

1024 KB   =1 megabyte

1024 MB   =1 gigabyte

1024 GB   =1 terabyte

DRIVES AND MEMORY LOCATION

Drives

Drives are gadgets that have the ability to store information: floppy drive (drive a), hard drive (drive c), tape drive, zip drive, jazz drive etc.

Memory location

Memory location are compartment within the computer established to store information. Example include; desktop, my computer, document, recycle bin, file folders etc.

SYSTEM UNIT

System unit is a metallic or plastic casing that houses or protects most of the major parts that control and define the computer. All these smaller parts are attached to the main board called **mother board or system board**. Even all the peripheral are attached to the mother wood at the rare of the system unit. Mother board has multiple circuits that enhances transportation of data and expansion slots that allow connection of additional parts. Some of parts found on system unit are the CPU (processor), hard disk, drives, memory chip, cards, buses etc.

THE MOUSE

Mouse is an input device that enters instruction or retrieves commands out of the computer. Mouse is an operating system that assist keyboard in operating computer. Mouse has two buttons;

- Left mouse button LMB

- Right mouse button RMB

The LMB is the active button for it is after issue commands in to the computer. Is the inactive button for it is not after use when the RMB is used, it is the retrieve commands out of the computer.

How Mouse operates

An ordinary mouse has a rubber ball at its underside. The ball rolls in relation to how the device is moved on a surface. There are two rollers that touch the ball and they roll as the ball moves. Next to each roller is a sensor that checks the distance travelled, the direction moved and the speed of the mouse pointer on the screen.

Techniques or action of the mouse

When the computer is operated and the mouse is used, one or more of the actions below must be applied.

- **Click**

This is briefly to press and release a mouse button so as to issue a command or select an item.

- **Double click**

This is consecutively pressing LMB twice in order to issue command; i. e to open an item or to highlight a word

- **Triple click**

This is giving three consecutive taps to the LMB twice in order to issue command I. e to highlight paragraph or an entire document.

- **Right click**

This is briefly pressing the RMB (inactive button) on an item or on an area in order to retrieve commands for application.

- **Click away**

It is pointing and clicking the active mouse button outside a selection or a displayed menu in order to deselect or to do away with it.

- **Point / select**

This is to move mouse pointer on an item then click the LMB

- **Drag/drop**

This is to point, press and hold down the LMB on an item to move it from a position to another

- **Highlight**

This is to point and drag over a text so as to select the textual data for particular aspect.

- **Position cursor/ insertion point**

It points between the characters so as to type a character

- **Resize objects**

This is to point border handles of an objects and drug so as to increasing and decreasing its size

- **Move/position object**

This is to point and drug the object from one position to another

THE KEYBOARD

It is another input device used to enter textual data through typing in to the computer. It can also be used to enter commands and instruction in the computer by pressing the keys. The keys of the keyboard may be sub-grouped into the following categories:

ALPHA NUMERIC KEYS

These consist of;

The alphabets I. e (A-Z)

The numerals I. e (0-9)

The punctuation marks I. e (,.; :")

The symbols I. e (# @ %)

The mathematical operator I. e (+-=/)

NUMERIC KEYPAD

This is positioned at the extreme right of the keyboard. It consists of the numerals the mathematical operators and a few special keys. It is deal when dealing with calculations. It is activated or deactivated by pressing the Num lock key.

FUNCTIONS KEYS

They include F1 through F12 and are positioned at the top most part of the keyboard. Their purpose is to shortcut commands or they can be assigned some special duties. Sometimes they are used together with keys to attain the duty e. g

F1 can retrieve help notes

F7 can be used to check spelling and grammar

F12 can be used to save

Alt +F4 can be used to close a program

ARROW KEYS

They are also referred to navigation keys. They are four of them; **ARROW LEFT, ARROW RIGHT, ARROW UP, ARROW DOWN.**

Arrow keys facilitate horizontal and vertical movement to navigate through the cells; and can be used with other keys to achieve the duty

SPECIAL KEYS

These are meant to perform special duties either singly or used together with other keys e. g

a. Enter key

These are two enter keys. Duties are:

- Executes commands
- Acquires the next line when typing
- Explores a folder I. e (ctrl + shift + enter)
- Crate space between the lines

b. Caps lock

Interchanges between uppercase and lowercase and vice versa

c. Space bar

It is the biggest key on the keyboard. It creates a single character space between words.

d. Delete key

Delete/ erases characters and spaces at the right of the cursor I. e forwards

Also erases selected items and text

e. Tab key

Creates set intervals between characters, word, text etc.

Navigates through the cell forwards

Navigates through the dialog box

f. Shift key

Normally used with other keys e. g

Highlight text (shift + arrow key)

Acquires upper character in a double character key. This is a key on the keyboard where two letters or values are place

Momentarily acquires the upper case or lowercase when typing

g. CTRL (control) key

It is always used together with other keys to achieve duties.it has the biggest combination of keys in Ms. Window e. g

- Ctrl +A highlight all

- Ctrl +C copies

- Ctrl +S saves

- Ctrl +P prints

- Ctrl +V pastes

h. Alt (alternative) key

Also used with other keys e. g

- Alt +F display file menu

- Alt +w displays window menu

- Alt +F4 closes a running program

i. Esc (escape) key

Clears a display menu or dialog box displays start menu with ctrl I. e ctrl + esc

j. Print key

k. Home key

Takes cursor to the beginning of the line

Take cursor to the beginning of document I. e ctrl + home

l. End key

Takes the cursor to the end of the line

Takes cursor to the end of the document I. e ctrl +end

m. Page up

Scroll/ moves the page up

n. Page down

Scrolls/ moves the page down

STEPS TO START A COMPUTER

- Switch on the mains switch

- Switch on the UPS (interruptible power supply) if available

- Switch on the system unit

- Switch the monitor

- Wait for the booting process to take place

- Click the user account

- Type the password if applicable

STEPS TO SHUT DOWN THE COMPUTER

- Save and close all running program
- Log off the user account
- Click the start button
- Click shut down
- Wait for the closure
- Switch of the monitor
- Switch off the UPS if any
- Switch off the mains

BOOTING OF THE COMPUTER

It is the process by which the computer loads the system file to prepare it elf for the org ware to operate when power has been run into the system. This process makes the computer undergo power on self-test (POST) to make sure the computer system is complete- no important hardware or software is missing.

Types of booting

a) **Cold booting**

This is turning on the computer by pressing the power button on the system unit and turning it on again.

b) **Warm booting**

This is forcing the computer to restart in order to rectifying minor errors within the system. It is done by pressing ctrl + alt + Del keys. When this process repeated the computer restart.

There are various choices for closing or suspending a session

SHUT DOWN: Close all open programs and services before powering off the computer

STANDBY/SLEEP: save the current session to memory and put the computer into minimal power State

HIBERNATE: save the current session to disk before powering of the computer

LOG OFF: close all open program and services started under the user account but leave the computer running

SWITCH USER: log on to another user account, leaving programs and files under the current account open

LOCK: Secure the desktop while leaving the running programs

RESTART: close all open programs and services before rebooting without powering down (a soft reset)

SOFTWARE

Software are the intangible component of the computer. They cannot be seen but only their results. Software are programs. Program are sets if instruction in electronic language, written to instruct the computer hardware on what to do and how to do it.

Types of software

- System software
- Application software

SYSTEM SOFTWARE

These are programs concerned with the effective performance of the computer hardware. They handle/ operate the computer. They act on the user's requirement as he/ she commands them. Some control various programs in order to achieve a certain duty.

System software can be grouped into;

a) **Operating system software**

Operating system (OS) is a complex amalgamation of programs which controls the execution of the user applications. It enables the user access hardware and software resources of the computer. They control, and coordinate most of the computer operation. OS could be single tasking or multi-tasking, single user or multi - user, and command base interface, menu driven interface or graphical user interface.

Functions of OS

- Job scheduling
- Resource control and allocation
- Input/ output handling
- Memory management
- Error handling
- Job sequencing
- Interrupt handling

Example of OS

- Microsoft windows
- Windows has version such as
- Ms. Windows NT
- Ms. Windows me
- Ms. Windows 2000
- Ms. Windows's xp
- Ms. Windows's vista
- Ms Windows 7
- Ms Windows 8
- Ms Windows 10 etc.
- Microsoft dos (disk operating system)
- UNIX
- Linux
- Macintosh (mac OS)

b) **Language translators**

This system software electronically translates one language to another through a machine. Language is computerized

c) **Utility/ service system software**

These special system file that render services commonly applied tasks within the computer. These task include copying, sorting, file handling, disk management etc.

d) **Communication system software**

Enhances communication or interaction between people through machines e. g phone dealers, network connection, internet etc.

APPLICATION SOFTWARE

These are program that enable the user to perform and achieve results from any perturbing problem i.e they are applied by user to achieve a certain duty/ task.

Classes of application software

- User application
- Application packages

User application

The program is designed for the computer user according to his/her specifications; therefore, referred to as tailor-made. They are written by ordinary programmers for their client.

Application packages

These are ready made programs. They are complex for the keenly manufactured to accomplish several tasks. They are directly bought form the shop installed into the computer.

Sub-classes of application packages

Word processor

These are designed to edit textual data. There is a lot of typing and formatting in this sub class. Example include MS word, word perfect, word star, word pro etc.

Spreadsheets

These are designed to create and manipulate numerical data. Here formulas and functions are utilized to enable calculation. Example MS excel, lotus 1-2-3, VisiCalc, VP planner etc.

Database

These are used to create, organize, store and manage huge amount of data. Example include MS access, dbase I-IV, paradox, fox pro etc.

Presentation

These help to prepare notes and graphic in an artistic manner by a presenter intended to a certain audience. Example include MS power point freelance graphics etc.

Graphics and design

They also referred to as desktop publishing (DTP's) because they were traditionally used for publishing purposes. They highly employ both text and graphics. Example are Corel draw, adobe page maker, Microsoft publisher, adobe photo shop, adobe illustrator etc.

Accounting packages

They are meant to tackle and simplify the accounting aspect such as the ledgers, balance sheet, assets, stock, report, chart etc. example are quick books, quicken, sage line 50, pastel etc.

MALWARE

Short for **malicious software**, is any software used to disrupt computer operation, gather sensitive information, or gain access to private computer systems. Malware is defined by its malicious intent, acting against the requirements of the computer user, and does not include software that causes unintentional harm due to some deficiency. The term badware is sometimes used, and applied to both true (malicious) malware and unintentionally harmful software

Probably the most well-known and most common type of malware,

Viruses

Consist of harmful programs designed to infect legitimate software programs. Once a person installs and runs the infected program, the virus activates and spreads itself to other programs installed on the computer before taking further action such as deleting critical files within the operating system. Similarly,

Computer viruses are small software programs that are designed to spread from one computer to another and to interfere with computer operation. A virus might corrupt or delete data on your computer, use your e-mail program to spread itself to other computers, or even erase everything on your hard disk.

Computer viruses are often spread by attachments in e-mail messages or instant messaging messages. That is why it is essential that you never open e-mail attachments unless you know who it's from and you are expecting it.

Worms

Are stand-alone programs that are able to transmit themselves across a network directly. Unlike a computer virus, worms do not need to attach themselves to an existing program. However, both types of malware can cause severe damage by exploiting shared files and databases.

Other malwares

- **Trojan Horse**

Similar to Greek mythology, Trojans present themselves as harmless, useful gifts, in order to persuade victims to install them on your computer. Thus, Trojans typically appear as regular software. The catch is that the Trojan comes bundled with other software that often includes a backdoor allowing unauthorized access to your computer. Trojans do not attempt to inject themselves into other files or applications like computer viruses instead, they use tactics such as drive-by downloads or installing via online games in order to reach their targets.

- **Adware and spyware**

Though not technically fitting into the virus category, at times these programs may invade your privacy, contain malicious code and at the very least become a nuisance. **Adware** is a form of financially supported malware that usually presents itself as unwanted advertisements to the user. The Internet is filled with these types of programs that can hijack your PC for profit, most are hidden inside so-called "free" downloads and pop-up ads that forcibly install software on systems with active vulnerabilities.

Similarly, **spyware** is a type of malware that surreptitiously gathers information and transmits it to interested parties. Information gathered includes the websites visited, browser and system information and IP address. Spyware does not have any infection mechanisms and is usually dropped by Trojans. Once dropped, it installs itself on the victim's computer and will begin collecting information silently as to avoid detection.

A **zombie** works in a similar way to spyware. The difference is that a zombie does not usually collect information from the computer. Instead, it just sits there waiting for commands from a command-and-control server controlled by the attacker. Attackers infect tens of thousands of computers, turning them into zombies and then issuing commands so that all of them instantaneously send network requests to a target host, overwhelming it with traffic also known as a DDoS attack or distributed denial of service.

SAFETY PRECAUTIONS TO THE COMPUTER AND THE LABORATORY

Computer are very sensitive, delicate, volatile and even expensive; therefore, it is important to note some safety precautions when handling them so that may serve longer and better:

- ✓ Proper hardware assembling
- ✓ Proper power management; include an uninterruptible power supply (UPS)
- ✓ Cover your computer system when not in operation to avoid dust, water etc.
- ✓ Do not bang computer devices
- ✓ Do not eat or drink from computer lab
- ✓ Do not run about the computer lab
- ✓ Ensure sufficient ventilation in the lab
- ✓ Protect computer from direct heat
- ✓ Ensure clean environment
- ✓ Burglar proof doors and windows are important to prevent theft
- ✓ Ensure regular servicing to the computer
- ✓ Handle the diskette and CDs carefully
- ✓ Do not place gadgets on the edges to avoid falling
- ✓ Do not interfere with computer setup
- ✓ Do not open the computer devices unless you are computer technician
- ✓ Do not entertain foreign hardware and software to prevent virus infection

FACTORS TO CONSIDER WHEN BUYING A COMPUTER

- The processor speed
- The hard disk capacity
- The memory RAM size
- The purpose of the computer user needs
- Warranty
- Portability
- Upgradeability and compatibility
- Documentation (operation manual)
- New or used
- The cost

FACTORS TO CONSIDER WHEN BUYING SOFTWARE

- Authenticity
- Reliability and security
- User friendliness
- The purpose of software
- Warranty
- Portability
- Compatibility and system configuration
- Documentation (operation manual)
- The cost

MICROSOFT WINDOWS

Window is a multi-user and multi-tasking operating system characterized by the graphical user interface (GUI). It is multi-user for more than one user can operate at a go; it is multi-tasking one can open and run several tasks at one particular time.

GUI means between the user and the computer MS windows bears graphics or pictures that represent items so as to guide the user. MS Windows is said to be user friendly especially when compared to other operating system. MS window is designed to operate application programs such as micro soft word, micro soft excel, micro soft access etc. it also supports a number of operations and hardware. Version of MS windows have been seen earlier in introduction.

COMMON FEATURES IN MS WINDOWS

Windows has an outstanding feature known as **WIMP**; (window, icon, mouse, pull down/pop up menu)

a. Window

The working area where the user places data is called **window**. Each running program opens with a window which is normally a clear space enclosed by borders**.**

The borders (toolbar) provide the user with working tool or technically said commands

b. Icon

These are pictorial representations of item within the computer. Items involves file/document. Folders, memory location, drives, windows interface shall be shown by its icon and a label (name).

c. Mouse

It is a input devices used to enter data and commands into the computer. It is a unique feature within MS windows operating system that assists the keyboard in inputting.

d. Pull down/ pop-up menus

In computer menus are lists commands. Pull down menus are obtained after clicking a menu at the menu bar. Different command shall be displayed after different menus are clicked. Pop-up menus are obtain after right click on the space or on a item. Different commands shall be displayed depending on different places or item right clicked.

DESKTOP

This is usually the first screen/display that will appear the moment the computer is turned on. It usually displays icons/items such as my computer, my document. Recycle bin or any other item as the user may choose. It is a memory location that has been customized to help the user place and access item with much ease.

DESKTOP WINDOWS

It is the typical working environment in micro soft windows operating system whereby any program it runs should bear.

Various parts of desktop window

a) Window

This is the working/ typing area. Data (text and graphics) is placed here.

b) Title bar

It is the uppermost strip of the desktop window. it contain the title of the running program, the name of the open document/ file and the resizing button.

c) Menu bar

This strip contain docket/ menus for commands. It is clicked to show a list of commands whereby one command is chosen and applied at a time e. g file menu, edit menu, view menu etc. menu bar also contains closing button (X) for the document/ file.

d) Status bar

This displays the current activities of the running program; for instance if MS word is running the status bar shall display the current page, section, line, column etc.

e) Scroll bar

These are two

- **Vertical scroll bar (VSB)**

Facilitates up and down movement of the working area

- **Horizontal scroll bar (HSB)**

Facilitates the left and right movement of the working area

f) Tool bars

Tool bar are strips that provide the user icons meant to shortcut often applied/ used commands. There could be several toolbar placed on the screen depending on pro running or the task being performed but are two universal toolbars which are found almost all the basic application programs.

g) Task bar

It is the strip at the bottom of the desk top window. It bears the start button, all running programs, system calendar, system clock etc.

DIALOG BOX

These are electronic form whereby the computer user is supposed to enter details in order the computer to complete the duty assigned. This happens when the computer needs the user to choose from the list of items or aspects.

Components of dialog box

a) **Check boxes**

These are small square shaped controls with labels for what aspects they stand for. They provide us with aspects to pick for application. The user is allowed to pick one or more check boxes.

b) **Option button**

These are round shaped controls with labels for what aspect they stand for. They provide us with options to choose from; but only one aspect at a time unlike check box.

c) **Combo box**

It is a list of aspect that the user can choose from one at a time. The user is also given a chance to add an aspect.

d) **List box**

Also a list of aspect just like combo box, when the user can choose an aspect one at time but cannot be allowed to add an aspect.

e) **Text box**

These are plain space sometimes with a blinking cursor where the user will be required to enter some text. Sometimes the text box contains a defaults text which may be edited or entirely replaced.

f) **Command button**

These are provisions or controls for instruction that user applies for the computer to either execute or terminate a specific duty. Example shall be seen yes or no, OK or cancel, save, close etc. to apply command buttons: point then click.

g) **Selection tab**

These are stores or dockets for aspects. They see on the menu bar of the dialog box by its name. They occur in a chain. They design overlapping sheets to utilize the limited space of the dialog box.

h) **Preview window**

This is space on the dialogue box displays all the activities being applied by the user on a particular text.

COMPUTER SETTING

These is a process of configuring the windows appearance in relation to the computer hardware or software being applied. Item that can be set/ configured include the display (the monitor), mouse, task bar, date and time, network connections, user accounts, keyboard etc.

General steps for computer setting

- Click start button
- Click control panel
- Select the item to configure
- Do the necessary changes
- Click apply click ok

Setting individual items

Note: all the computer setting is basically accessed from the control panel

Setting screen saver

This is a program which is set to run automatically when a computer has been idle for a set/ specified duration.

Importance of screen saver

- Security to information from intruders
- Protect the screen from tear and wear
- For advertisement
- Entertainment

Steps to set a screen saver

- Click start button
- Click control panel
- Click appearance and personalization
- Click personalization
- Click screen saver
- Select type of screen saver
- Apply the settings
- Click apply
- Click ok

Setting background/wallpaper

Wallpaper is the background pattern or picture against which desktop menus, icons, and other elements are displayed and moved around. A wallpaper image can be in a <u>JPEG</u> or a <u>GIF</u> file format.

- Click start button
- Click control panel
- Click appearance and personalization
- Click personalization
- Click desktop background
- Select a background to apply
- Save the changes and close

Setting date and time

- Click start button
- Click control panel
- Click appearance and personalization
- Click clock, language and region
- Click date and date
- Click change date and time
- Adjust time and date appropriately
- Click ok
- Click apply
- Click ok

USER ACCOUNT

User account is facility that allows the computer user personalize (make private) some item and operations especially where the computer is shared or operated by more than one user. There are two types of user account:

- Administrator account
- Limited account

Administer account allow the user to change all the computer setting but the limited account do not. The prevention/ security is ensured by creating a password to an account

Create a new user accounts

- Click start button

- Click control panel

- Click user accounts

- Click user accounts

- Click manage another account

- Click create a new accounts

- Type the name of the account

- Choose the type of the account

- Click create account

Create password for an account

- Click start button

- Click control panel

- Click user accounts

- Click user accounts

- Click manage another account

- Select account to apply the password

- Click create password

- Type password and retype it again to confirm

- Click create password

Delete the user account

- Click the account

- Click delete the account

- Click delete the files

- Click delete the account

Switch between user accounts

- Click start button

- Click log off/switch user

- Click switch user

- Click the user's name

- Type the password

- Press enter key

ARRANGING WINDOWS

Windows are the working environments. When several are open to run concurrently, it is important to arrange them in some style to enhance easy access when working from one window to another. There are two types' windows on a typical program.

- Mother/ program window
- Document/file window

Style of arranging program windows

The user is allowed to choose any style that is friendlier to work with. Otherwise all the style are just as good.

Vertical tilling/side by side

Programs shall be arranged left to right standing upright next to each other on the screen.

Horizontal tilling/stacked

Windows are arranged running across the screen one below each other on the screen.

Cascading

This overlaps the windows one behind each other from top – left to the bottom- right of the screen leaving out only the title bar.

Steps to arrange program windows

- Open all the program to run concurrently
- Right click on free space on the taskbar
- Click on the style of the arrangement

Steps to remove a style/ arrangement

- Right click on a free space on a taskbar
- Click undo (current style)

Arranging document windows

Document windows are the individual working areas on a particular program.

Steps to arrange document windows

- Open the mother program
- Open the document to run concurrently
- Click view
- Click arrange
- Click a style
- Click ok

To activate a window from an arrangement

To activate means to ready a window in order to work on it.

Steps

Click on the title bar

OR

Click inside the working area of the window

Move and position a window

Doing this means the user does not want to arrange the windows conventionally but his/ her way

Steps to move and position a window

Restore the window in question

Click and hold the LMB

Drag and drop to a desired position

WINDOWS EXPLORER

This is a program in windows operating system that enables the computer user to organize and manage all the items within the computer. This program explores the entire items (drives, folder, sub folder, files/ documents, shortcuts etc.) in hierarchical manner. Window explorer is divided into 2 parts; folder's list and contents' list.

Open windows explorer

Method 1

- Right click start button
- Click explore

Method 2

- Right click any folder or drive
- Click explore

Method 3

- Select a folder or drive
- Press ctrl+ shift+ enter keys

Folder's list

This is the left part of the windows explorer. It displays all the drives, folders and sub folders either expanded or collapsed

Content's list

This is the right part of the window explorer. It displays the contents (drives, folders, sub-folders and files) inside a selected item on the folder list.

Expand a folder

Any folder with other folders inside is referred to main folder or parent folder. It will be shown with positive sign (+) to the left of it icon in the folder list

Click the positive sign to expand the folder and sub folders displayed below it.

Collapse a folder

This is hiding the sub folders back to the main folder if they were expanded

Click the negative sign (-) to the left icon of the main folder to collapse the folder

Steps to view the contents of a folder

- Select the folder on the folders list
- Observe the "contents list"

To arrange item within a location

Item can be arranged in the following ways:

- By name
- By type
- By size
- By modified
- By group
- By auto arrange

Stapes to arrange items

- Open the location with the items
- Click view menu
- Point arrange icon by
- Click the type of arrangement

View item with location

Item can also be viewed in the following ways:

- By thumbnails
- By tiles
- By details
- By icon

- By list

Steps to view items

- Open the location with the items

- Click view menu

- Click the style to view with by

ACCESSORIES

These are down scaled programs that come with an operation system and are used to achieve specific tasks. Examples: CD player, paint, calculator, address book etc.

Steps to open accessories

- Click start button

- Point all program

- Point accessories

- Click one

- Accomplish the task

FILE FOLDERS

They are memory location set apart in the computer to enable storage under management of files and even other folders. They referred to as file folders simply because they are often used to store files. The user is permitted to create the folders. Once a folder has been created it can opened, closed, copied, cut etc.

Steps to create file folders

Creating FF on the desktop

Right click on the black space on the desktop

Point new

Click folder

Type the name of the folder

Click away

Creating FF from windows explorer

Open windows explorer

Select the location into which to create the new folder (on the folder list)

Click file menu

Point new

Click folder

Type the name of the folder

Click away

Creating a sub folder

Open the main or parent folder

Point new

Click folder

Type the name of sub folder

Click away

FILE AND DOCUMENTS

Files

File is a collection of related data that initially has been created in random access memory and stored in a particular memory location. File contains basic information for storage from a source program.

Document

Document is the data within the random access memory before it has been saved

Creating file

Creating files from a source program

Click start button

Click a source program

Enter or type the data

Save the document by giving it an appropriate file name and choosing a known location

Creating a file on desktop

Right click a blank space on the desk top

Point new

Click the folder

Click a source program

Type an appropriate file name

Click away

Open the file

Enter/ type data

Save the changes

Creating a file into specific file folder

Open the file folder

Right click bank space

Point new

Click file to create

Type name of the file

Click away/press enter key

TO SELECT ITEMS

This is to particularize items from a list of others for a particular task such as opening, copying, cutting, deleting etc.

Ways of selection

- Single selection

Method 1

Point and click the item

Method 2

Press tab key and arrow keys

- **Selective selection**

Press and hold down shift key

Point and click the needed item

Release the ctrl

- **Group/ list selection**

Method 1

- o Select the 1st item
- o Press and hold down shift key
- o Click the last item

Method 2

- o Click and hold LMB on the 1st item
- o Drag over to the last item
- • Entire selection

Method 1

- o Select the 1st item
- o Press and hold down shift key
- o Press A key

Method 2

- o Click edit menu
- o Click select all

TO OPEN ITEM

Opening is identifying and accessing an item within the computer either for viewing or for the purpose of working on it.

Steps to open items

Method 1

- o Right click the item
- o Click open

Method 2

- o Double click on the item

Method 3

- o Select the item
- o Press enter key

Method 4

- o Select item
- o Click on file menu
- o Click open

Method 5

- o Click start button
- o Click run
- o Type the name or browse the items path
- o Click ok

COPY İTEMS

Copying is duplication of items from the original copy. It is important for copying saves time of recreating similar item

Steps to copy

Method 1

- o Select the item of copy
- o Click edit menu
- o Click copy
- o Click edit menu again

- o Click paste

Method 2

- o Right click on the item to copy
- o Click copy
- o Right click bank space
- o Click paste
- o Copying in windows explorer
- o Select the item to copy
- o Click edit menu
- o Click paste

Copying from one location to another

- o Open location one
- o Select item to copy
- o Click edit menu
- o Click copy
- o Open location two
- o Click edit menu
- o Click paste

Multiple- copying of items

This is duplication of more than one item. This method is even better than ordinary method.

Steps to multiple copy

Method 1

- o Select the item to multiple copy
- o Right click the selected items and do not release the RMB
- o Drag the mouse
- o Click copy here

Method 2

- o Select all the item to the multiple copy
- o Click edit menu
- o Click copy
- o Click paste

CUTTING ITEMS

Cutting is moving the items from one position to another or from one location to another

Steps to cut

Method 1 (from one position to another)

- o Right click on the item to cut
- o Click cut
- o Right click the position to place the cut item
- o Click paste

Method 2 (from one location to another)

- o Select the item to cut
- o Click edit menu
- o Click cut
- o Indicate the location to place the cut item
- o Click edit menu again
- o Click paste

DRAG/ DROP İTEMS

This will transfer items from one position to another or from one location to another. It is more or less like cutting of items.

Steps to drag/ drop

- o Click and hold down the LMB on the item
- o Move the mouse to drag to the desired position or location
- o Release the mouse button to drop the item

RENAME İTEMS

This is giving different name to an item in cases of correction or after changing contents within the item.

Steps to rename item

Method 1

- o Right click the item to rename
- o Click rename
- o Type the new name in the blinking cursor
- o Click away

Method 2

- o Select the item to rename
- o Click its label
- o Type the new name in the blinking cursor

o Click away

Method 3

o Select the item to rename

o Click file menu

o Click rename

o Type the new name in the blinking cursor

o Click away

DELETE ITEMS

Deleting is erasing or doing away with unwanted items from their original locations to the recycle bin. Items that can be deleted include folders, files, shortcut etc.

Steps to delete items

Method 1

o Select the item to delete

o Press delete key

o Click yes to confirm

Method 2

o Right click the item to delete

o Click delete

o Click yes

Method 3

o Select the item to delete

o Click file menu

o Click delete

o Click yes

Method 4

o Drag the item to delete

o Drop it on the recycle bin icon

THE RECYCLE BIN

It is kind of memory location usually found on the desktop where all deleted items are stored temporarily waiting for retrieval or permanent deletion.

Retrieving item from recycle bin if an item has accidentally been deleted. It can be retrieved back to its original location.

Method 1

- o Open the recycle bin
- o Select the item to be retrieved
- o Click file menu
- o Click restore

Method 2

- o Open the recycle bin
- o Select item to retrieve
- o Right click on selected item
- o Click restore

Permanent deletion

Permanent deletion completely does away with item out of the computer memory. This deletion is important for it clears the computer of space for storage.

Method 1

- o Open the recycle bin
- o Select the item to permanently delete
- o Press delete key
- o Click yes

Method 2

- o Open the recycle bin
- o Click empty recycle bin

Method 3

- o Open the recycle bin
- o Select the item
- o Right click the selected item
- o Click delete
- o Click yes

Method 4

- o Right click the recycle bin icon
- o Click empty recycle bin
- o Click yes

SEEKING HELP IN THE COMPUTER

It does not matter whether the user is an amateur or a computer wizard; one cannot know everything in the computer aura. Therefore, computer software designers make sure programs come packaged with voluminous notes on how to go about each and every step. From a simple task to the entire package the user needs not to worry for help is always at the disposal.

Major areas of interest may include computer system management, hardware and software installation, networking, internet, printing document, troubleshooting major mal-operation, playing games, videos, and music, or generally what is new in the computer technology.

Help can be accessed in different angles depending on user's area of interest or how fast the help is required.

General tour help

Here the user just goes around the topics in the computer without specifically anything on minor. The OS installed may assist to array topics to choose from. For instance, below windows 7 outlines some crucial help.

Steps to access general help

- Click start button
- Click help and support
- Click any major topic link
- Click any sub topic link
- Read notes from the display

Help using index

Whether u know exactly what you are looking for, or want to browse for what you need, the index provides you with a fast, easy way to locate topics and resources. It is important the user knows the topic to look for help.

Steps to access help using index

- Click start button
- Click help and support
- Click index button at the menu
- Select or type a keyword in the slot
- Select a sub topic
- Click display
- Read the displayed notes

- You may click the links on the display for more

On- spot help

This kind of help is on the spot because the user could be working/ running a certain application but gets stuck. It is possible to get assisted on the current task in the current application.

Steps to access on- spot help

- Press F1 key when the application is on
- Click the link to get appropriate help notes
- Steps to access on-spot help
- Click help menu when the application is on
- Click (application name) help
- Click table of the contents
- Click a book topics of interest to open
- Click a topic of interest
- Click a link of interest
- Read the display notes

Microsoft word is an application package under the class word processor or text editors. It is a windows run program, ideal for production of documents such as newsletters, curriculum vitae, letters, research papers, mail merging etc.

Examples of word processor

Word pad, word star, open office .org writer

Versions of MS Word

Ms word 2003,2007,2010,2013

FEATURES OF MS WORD

a) The Quick Access Toolbar

In the top left hand corner of the window is the Quick Access toolbar. The Quick Access toolbar provides you with access to commands you frequently use. By default Save, Undo, and Redo appear on the Quick Access toolbar. You can use Save to save your file, Undo to rollback an action you have taken, and Redo to reapply an action you have rolled back. The Quick Access Toolbar can be customized to contain buttons of your choice for easy access.

b) The Title Bar

Next to the Quick Access toolbar is the Title bar. The Title bar displays the title of the document on which you are currently working. Word names the first new document you open Document1. As you open additional new documents, Word

names them sequentially. When you save your document, you assign the document a new name.

c) The Ribbon

You use commands to tell Microsoft Word what to do. In Microsoft Word 2007, you use the Ribbon to issue commands. The Ribbon is located near the top of the screen, below the Quick Access toolbar. At the top of the Ribbon are several tabs;

clicking a tab displays several related command groups. Within each group are related command buttons. You **click buttons** to issue commands or to access menus and **dialog boxes**. You may also find a dialog box launcher in the bottom right

corner of a group. Clicking the dialog box launcher gives you access to additional commands via a dialog box.

- Tabs
- Buttons
- Groups

- Dialogue Launcher

d) The Ruler

The ruler is found below the Ribbon.

You can use the ruler to change the format of your document quickly. If your ruler is not visible, follow the steps listed here:

1. Click the View tab to choose it.

2. Click the check box next to Ruler in the Show/Hide group. The ruler appears below the Ribbon.

e) The Text Area

Just below the ruler is a large area called the text area. You type your document in the text area. The blinking vertical line in the upper-left corner of the text area is the cursor. It marks the insertion point. As you type, your text displays at the cursor location. The horizontal line next to the cursor marks the end of the document.

f) The Vertical and Horizontal and Vertical Scroll Bars

The vertical and horizontal scroll bars enable you to move up, down, and across your window simply by dragging the icon located on the scroll bar. The vertical scroll bar is located along the right side of the screen. The horizontal scroll bar is located just above the status bar. To move up and down your document, click and drag the vertical

scroll bar up and down.

g) The Status Bar

The Status bar appears at the very bottom of your window and provides such information as the current page and the number of words in your document. You can change what displays on the Status bar by right-clicking on the Status bar and selecting the options you want from the Customize Status Bar menu. You click a menu item to select it. You click it again to deselect it. A check mark next to an item means it is selected.

LOAD/OPEN MICROSOFT WORD

There are various ways in which we can load/ open Microsoft word.

Method 1

- o Click start button
- o Click all programs
- o Click Ms Office
- o Click Microsoft office word
- o Click

Method 2

- o Click start button
- o Type word on the search box
- o Click word on the programs group

Method 3

- o Identify an MS word file
- o Open it

CREATE A NEW DOCUMENT

Method 1

- o Click office button
- o Click new
- o Click blank document
- o Click create

Method 2

- o Press ctrl+ N

Method 3

- o Click the new icon on the quick access tool bar

SAVE A DOCUMENT

Saving is transferring of data from the elusive RAM to a permanent memory location. The saving can take place within the computer or even outside the computer. After clearing a document, it is indivisible to save it in order to avoid losing the data. Saving also enable the future retrieval of information.

Steps to save a document

Method 1

- o Click office button
- o Click save
- o Type the file name
- o Choose the location to save file
- o Click save button

Method 2

- o Click office button
- o Click save as
- o Type the file name
- o Choose the location to save the file

o Click save button

Method 3

    o Click the save icon at the quick access tool bar

    o Type the file name

    o Choose the location to save the file

    o Click save button

Method 4

    o Press ctrl+ s

    o Type the file name

    o Choose the location to save the file

    o Click save button

Note: the save as command. These command is in three instances

    o To save a document for the first time

    o To save a file in different location

    o To save a file by different name

After a document or file has been saved additional working should be saved often to avoid losing it. This is called saving the changes and remember save as command should not be used

CLOSE A DOCUMENT

Method 1

- Click office button

- Click close

Method 2

- Click the (X) at the menu bar

- Method 3

- Press alt + F4

OPEN EXISTING DOCUMENT OR FILE

Method 1

- Click office button

- Click open

- Indicate the location with the file

- Click the file in display

- Click open button

Method 2

- Click open icon on the quick access tool bar
- Indicate the location with the file
- Click the file in display
- Click open button

Method 3

- Press ctrl +O
- Indicate the location with the file
- Click the file in the display
- Click open button

SEARCH FOR FILES

In case the user cannot find files within the computer immediately, the search command can be used to avoid time wasting

Steps to search for files

- Click start button
- Click search
- Type the file name or few details
- Click the file to open

PAGE SETUP IN MS WORD

This is coming up with a page that bears characteristic required for a particular document.

Steps to page setup

- Click page layout
- Select feature to apply on the page setup group

Features applied in a page setup

Page margins

These are spaces left at the edges of the document. They are usually four: left, right, top and bottom margins.

Gutter

It is also space allowed just before the left margin or the top margin to facilitate binding or filing of the document (paper)

Header

It is the space allowed just below the top margin to facilitate header. Header is constant data (text, graphic) that should appear automatically at the top of the page any moment a new page is acquired. Letterheads, logos, dates, page numbers can make header.

Footer

It is also a space allowed just below the bottom margin to the footer. Footer is the constant data (text, graphic, or picture) that should appear automatically at the bottom of the page any moment a new page is acquired. Mottos, dates, page number can make the office footer.

Orientation

This is positioning of the paper when typing I. e either portrait (upright) or landscape (oblong)

Page size

Depending on the document being created paper size may chose. The size include A1, A2, A3, A4, A5, B1, B2, and B3, legal, letter, envelop, etc.

Layout

This would among other things involve line numbering either on even or odd pages or on both.

Zoom

This is a command that diminishes or enlarges the working area

Importance of zoom

It enables creating of tiny or extremely large document. It also enables those with straining eyes view details with much ease.

Steps to apply zoom

Method 1

- Click view menu
- Click on zoom
- Adjust to desired percentage
- Click ok

Method 2

- Choose or type appropriate zoom percentage at the standard toolbar

HIGHLIGHT TEXTUAL DATA

When editing or formatting a document data must be highlighted. As seen earlier highlight means selecting a particular portion of textual data for a particular aspect. These aspects may include copying, cutting, deleting, different color, size of character, styles columns etc.

Steps to highlight text

Method 1

- Position cursor at the beginning of the text
- Press and hold down LMB
- Drag to the end of the text
- Apply the aspect required

Method 2

- Position the cursor at the start of the text
- Press and hold down shift key
- Click at the end of the text
- Apply the aspect required

Method 3

- Position the cursor at the start of the text
- Press and hold down shift key
- Press arrow keys appropriately

Method 4

- Position the cursor at the start of the text
- Press ctrl+ shift keys
- Press end key
- Apply the aspect required

Method 5

- Click the 1st line from the left margin
- Press and hold down the LMB
- Drag downwards
- Apply the aspect required

Method 6

- Triple click on the left margin

Method 7

- Click in the text
- Click edit menu
- Click select all

Method 8

- Click in the text

- Press ctrl+ A

- Apply the aspect required

Highlight a character or a word

Double click the character or the word

Highlight the paragraph

Triple click the paragraph

Highlight the line

Method 1

- Click on the line from the left margin

Method 2

- Position cursor at the start of the line

- Press and hold down shift key

- Press end key

Highlight the sentence

- Press and hold down ctrl key

- Click anywhere within the sentence

FORMATTING A DOCUMENT

Formatting is enhancing a document with decorative aspect so as to give it a facelift for better presentation.

Formatting involves aspects such as the font, the paragraph, borders and shading, columns, bullets and numbering auto format case, text effect etc.

Attributes of font

- Font type

- Font style

- Font size

- Font color

Font type/face

This is handwriting style in document. There are several font types e. g times new roman, aria narrow etc.

Font size

This is smallness or bigness of the characters in a document.

Font style

This can be said to be the capturing appearance of the text e. g bold italic, underline etc.

Font colors

The user is given the variety of colors to choose for application on the document red, blue etc.

Steps to apply font attributes

- Highlight the text
- Click home tab
- Choose the attribute to apply from the font group

DROP CAP

These is usually an enlarged character in a certain document at the beginning of a lines especially in newspaper, magazines and some books. Drop cap gives prominence and style to a document.

Types of drop cap

- Dropped
- In margin

Steps to drop cap

- Highlight the character to drop
- Click insert tab
- Click drop cap
- Select the style

BULLETS & NUMBERING

Bullets are symbols or characters that order items in a document but not systematically. Numbers will order items systematically.

Steps to bullets

- Highlight the item to bullet
- Click home tab
- Click Bullets on the paragraph group
- Select desired bullet style
- Click ok

Steps to numbering

- Highlight the item to number
- Click home tab
- Click numbering on the paragraph group

- Click numbered
- Click desire number style
- Click ok

BORDERS AND SHADING

Borders are line that surround text in a document. A border can be applied on a text line. Paragraph or entire page.

Shading is decoration applied beneath the text. Shading can also be applied to text line or paragraph.

Steps to borders and shading

- Highlight the text
- Click page layout
- Click page border
- Select borders, page borders or shading
- Indicate border setting style, color etc.
- Indicate shading color or pattern
- Click ok

CASE

Case in computer is naturalization of the alphabets in a document.

Types of cases

Upper case   (PETER AND NANCY ARE FRIENDS)

Lower case   (peter and nancy are friends)

Sentence case   (Peter and Nancy are friends)

Title case/   (Peter And Nancy Are

Capitalize Each Word   Friends)

Toggle case   (pETER aND nANCY aRE fRIENDS)

Steps to change case

- Highlight the text
- Click home tab
- Click change case
- Select case

BACKGROUND

Background is the space where texts lies on it can be applied with color or fill effect is gradient, texture and pattern

Steps to background

- Click page layout
- Click page color
- Select color to apply or
- Click fill effects
- Choose appropriate effect
- Adjust accordingly
- Click ok

COLUMNS

Column are vertical subdivisions of text. Columns make a continuous long text readable without coming. The newspapers always break their stories into columns. Also note this manual has been sub divided into two columns.

Steps to apply columns

- Highlight the text
- Click page layout
- Click columns
- Select columns preset, width etc.
- Click ok

PARAGRAPH

Involve arranging text in document by applying different layouts of the page such as;

Alignment

Arranging text either at the left, right, center or justify

Tab

This is pushing first line or even group of text some distance away from margin in order to maintain uniform paragraphing

Line spacing

- It is creating space between the lines typing for a better presentation
- Steps to paragraph
- Highlight the text

- Click home tab

- Click line spacing on the paragraph

- Click line spacing option

- Set alignment indent spacing tabs etc.

PAGE NUMBERING

This is ordering pages within a document if the document has more than one page

Steps to page numbering

- Open the document

- Click insert tab

- Click page numbers

- Indicate the position to place the number

- Indicate where to start page numbering

- Format the page number

- Click ok

EDITING A DOCUMENT

This is general manipulation of data in a document whereby unnecessary materials are dropped and others added to the main text in order to come up with desired piece of document. Editing involve copying of data cutting of data, pasting of data, spelling and grammar etc.

COPYING OF DATA

Copying is duplicating of data whereby the original copy remains e. g

Steps to copy data

Method 1

- Highlight the text

- Click home tab

- Click copy on the clipboard group

- Position the cursor in the desired place

- Click home tab

- Click paste the clipboard group

Method 2

- Highlight the data to carry the copy

- Right click on the highlighted data

- Click copy

- Right click on the position to copy

- Click paste

Method 3

- Press ctrl+ A –to highlight

- Press ctrl+ C –to copy the data

- Press ctrl+ V –to paste

Cutting of data

Cutting is just like the process of copying data except that instead of copying we choose cut and on the keyboard instead of C we press X. cut will also duplicate data just like copying but the original data will not remain.

PASTING OF DATA

This is gluing or sticking what has already been copied or cut. Pasting must be applied so as complete the copy or cut command.

UNDO COMMAND

The reverses any recently applied command. It may limit the reversing of some commands depending on how previously they have been applied.

Steps to undo

Method 1

- Click undo icon on the quick access toolbar

Method 2

- Press ctrl+ Z keys

REDO COMMAND

- Redo reverses the undo command

- Steps to redo

Method 1

- Click redo icon on the quick access tool bar

- Method 2

- Press ctrl+ Y keys

SPELLING AND GRAMMAR

This command involves going through the textual data to check any errors accidentally made and spelling errors shall be underline in red wavy line. Grammatical errors shall be underlined in green wavy lines.

Steps to spelling and grammars

Method 1

- Click review tab when document is open
- Click spelling and grammar
- Spell check the text accordingly

Method 2

- Press F7 key
- Spell check accordingly

Spell checking process

In the dialog box display the spelling errors should appear in red color while grammatical error shall appear in green color.

Thus

- Select a suggestion from the list of them or
- Position the cursor and type the word correctly
- Click change button to effect the correction
- Do the same to the next displayed error
- Click ignore if the error should remain
- Click ok

THESAURUS

This is facility that gives synonyms and antonyms of the word

Synonyms – word having similar meaning

Antonyms – words opposites

Steps to thesaurus

Method 1

- Highlight the word
- Click review tab
- Click thesaurus
- Right click suitable synonyms /antonyms
- Click insert

Method 2

- Highlight the word
- Press shift+ F7 keys
- Press enter key
- Right click suitable synonym antonym
- Click insert

FIND AND REPLACE

This command is used to locate a misplaced word then put a different one

Steps to find and replace

- Highlight the word
- Click home tab
- Click find/ replace
- Type the word to replace with
- Click replace all

INSERTING OBJECT IN MS WORD

This is getting items from other sources or programs so as to incorporate them into the main document in MS word. The object includes: pictures, tables, clip arts, word arts, auto shapes, graphical chats, auto text, headers and footers etc.

General steps to insert objects

- Position the cursor where to place the object
- Click insert tab
- Select appropriate category/ source
- Click ok
- Edit and format accordingly

Steps to format an inserted object

- Select the object
- Click format
- Click (name of the object)
- Apply desired aspect e. g size, line, wrapping, color, fill etc.
- Click ok

Steps to insert an object from the file

- Position cursor on the document

- Click insert tab
- Point picture
- Click from file
- Indicate the location with the object
- Select the object
- Click insert button

AUTO –SHAPES

These are pre designed graphics which the user can automatically pick and draw in MS word document. They include shapes as line, rectangle, squares, callouts, stars, arrows etc.

Steps to insert auto shapes

- Click insert tab
- Point picture
- Click auto shape
- Click the category of the auto shape
- Click the desired auto shape
- On the page drag to draw the shape
- Edit and format accordingly

WORDART

It is pre designed word feature to let a chosen piece of text acquire that style. Word art are important especially when advertising or giving warning messages.

Steps insert word art

- Click insert tab
- Point picture
- Click word art
- Select the style of word art
- Click ok
- Type the desired text
- Format the word art
- Click ok
- Again edit and format appropriately

TABLE

Table is a combination of rows and columns where data can be entered into the cell. A table can be acquired through drawing or automatically inserted.

Steps to draw a table

- Click insert tab
- Click table
- Click draw table
- Draw a rectangular frame
- Draw rows & columns into the frame
- Enter the data into the cell
- Edit and format appropriately

Steps to insert a table

- Click insert tab
- Click table
- Click insert table
- Indicate the no. of rows & columns etc.
- Click ok
- Enter data into cell
- Edit and format accordingly

Steps to format a table

- Select the table
- Choose the column, row or cells, etc
- Click design tab/layout
- Apply desired aspects
- Click ok

TEXT BOX

Text box is a text editor feature that turns texts and graphics to movable, resizable and format able object. It is very convenient to work with text boxes for they make it possible where an object would be restricted.

Steps to insert a text box

- Click insert tab
- Click text box
- Drag to draw a frame

- Type the text inside

- Edit and format accordingly

WRAPPING

Wrapping is a feature used to enclose graphics with text. This aspect is applied during formatting of graphic or object

Steps to wrapping

- Select the graphic

- Click format tab

- Click text wrapping on the arrange group

- Click wrapping style

HEADERS AND FOOTERS

Header is a constant data set to automatically appear at the top of each page while footer is the constant data auto appearing at bottom of page. The header could be a letter head, page number, time etc. while footer could be a school motto, page number, date etc.

Steps to insert header and footer

- Click insert tab

- Click header / footer

- Select a style

- Enter data for the header / footer

- Edit and format accordingly

- Click design tab

- Click close header/footer

- Work on the document

MAIL MERGING

This is a process of creating one main document intended to be sent to many recipients

Two parts

- Main document-details explaining more of the document

- Data source-these are the contacts of the recipients

STEP FOR MAIL MERGING

- Type the letter/document to merge

- Click mailings tab

- Click start mail merge

- Click letters

- Click select recipient

- Click type new list/use existing list

- Create list to use

- Click insert merge fields

- Insert fields to their required positions

- Click Preview results

- Click finish & merge

PRINT PREVIEW

This is a window whereby a document can be viewed to check any error associated with printing.

These errors arise from the margins, paragraph, layout etc.

Steps to print preview

Method 1

- Open the document to preview

- Click office button

- Point print

- Click print preview

- Observe to check any errors

- Click close when satisfied or go back for adjustment

Method 2

- Open the document

- Click the print preview icon on quick access tool bar

- Observe to check any

PRINTING THE DOCUMENT

Printing is transferring a created piece of document from the computer to the paper using printer.

I. e soft copy to hard copy

Steps to print a document

Open the document to print

Click office button

Click print

Select the name of printer to be used

Indicate the range of pages to be printed

Indicate the no. of copies for each page

Indicate whether collate or non-collate

Click ok

Microsoft Word shortcut keys

Below is a listing of all the major shortcut keys in Microsoft Word.

Ctrl + A Select all contents of the page.

Ctrl + B Bold highlighted selection.

Ctrl + C Copy selected text.

Ctrl + X Cut selected text.

Ctrl + P Open the print window.

Ctrl + F Open find box.

Ctrl + I Italic highlighted selection.

Ctrl + K Insert link.

Ctrl + S Save document

Ctrl + V Paste.

Ctrl + Y Redo the last action performed.

Ctrl + Z Undo last action.

Ctrl + L Aligns the line or selected text to the left of the screen.

Ctrl + E Aligns the line or selected text to the center of the screen.

Ctrl + R Aligns the line or selected text to the right of the screen.

Ctrl + M indent the paragraph.

Ctrl + Shift + F Change the font.

Ctrl + Shift + >Increase selected font +1pts up to 12pt and then increases font +2pts.

Ctrl +] Increase selected font +1pts.

Ctrl + Shift + < Decrease selected font -1pts if 12pt or lower, if above 12 decreases font by +2pt.

Ctrl + [Decrease selected font -1pts.

Ctrl + Shift + * View or hide non printing characters.

Ctrl + <left arrow> Moves one word to the left.

Ctrl + <right arrow> Moves one word to the right.

Ctrl + <up arrow> Moves to the beginning of the line or paragraph.

Ctrl + <down arrow> Moves to the end of the paragraph.

Ctrl + U Underline highlighted selection

Ctrl + Del Deletes word to right of cursor.

Ctrl + Backspace Deletes word to left of cursor.

Ctrl + End Moves the cursor to the end of the document.

Ctrl + Home Moves the cursor to the beginning of the document.

Ctrl + Spacebar Reset highlighted text to the default font.

Ctrl + 1 Single-space lines.

Ctrl + 2 Double-space lines.

Ctrl + 5 1.5-line spacing.

Ctrl + Alt + 1 Changes text to heading 1.

Ctrl + Alt + 2 Changes text to heading 2.

Ctrl + Alt + 3 Changes text to heading 3.

Ctrl + F1 Open the Task Pane.

F1 Open Help.

Alt + Ctrl + F2 Open new document.

Ctrl + F2 Display the print preview.

Shift + F3 Change the text in Microsoft Word from upper to lower case or a capital letter at the beginning of every word.

Shift + Insert Paste.

F5 Open the find, replace, and go to window in Microsoft Word.

Ctrl + Shift + F6 Opens to another open Microsoft Word document.

F7 Spell and grammar check selected text and/or document.

Shift + F7 Runs a Thesaurus check on the word highlighted.

F12 Save as.

Shift + F12 Save.

Ctrl + Shift + F12 Prints the document.

Alt + Shift + D Insert the current date.

Alt + Shift + T insert the current time.

MICROSOFT EXCEL

These are ledgers meant to manipulate and analyses numerical data. These are two types of spreadsheet: **manual spreadsheet** and **electronic spreadsheet**.

Manual involves use of book, a pencil, and a ruler and eraser etc. while electrical involve the computerized program that would handle the numerical data these programs include:

Microsoft excel

Lotus 1-2-3

Visi calc

VP planner etc.

ADVANTAGES OF ELECTRONIC OVER MANUAL SPREADSHEETS

Large virtual storage of information within a limited space unlike in manual physical storage where is cumbersome.

High chance of accuracy in calculation. It is very easy for humans to make errors when manually doing calculation

Fast retrieval of stored information

Neat production and presentation of information unlike in manual where erased work may look UN clean

Electronic spreadsheet bears or allows formulas and functions while manual lets the user work out mentally

MICROSOFT EXCEL

Microsoft excel is an electronic spreadsheet; an application package that can be used to enter, manage and presenting numerical data in Microsoft windows environment.

Application of spreadsheet

- Entry analysis and keeping of data figures
- Manipulation of accounts records
- Statistical analysis and research
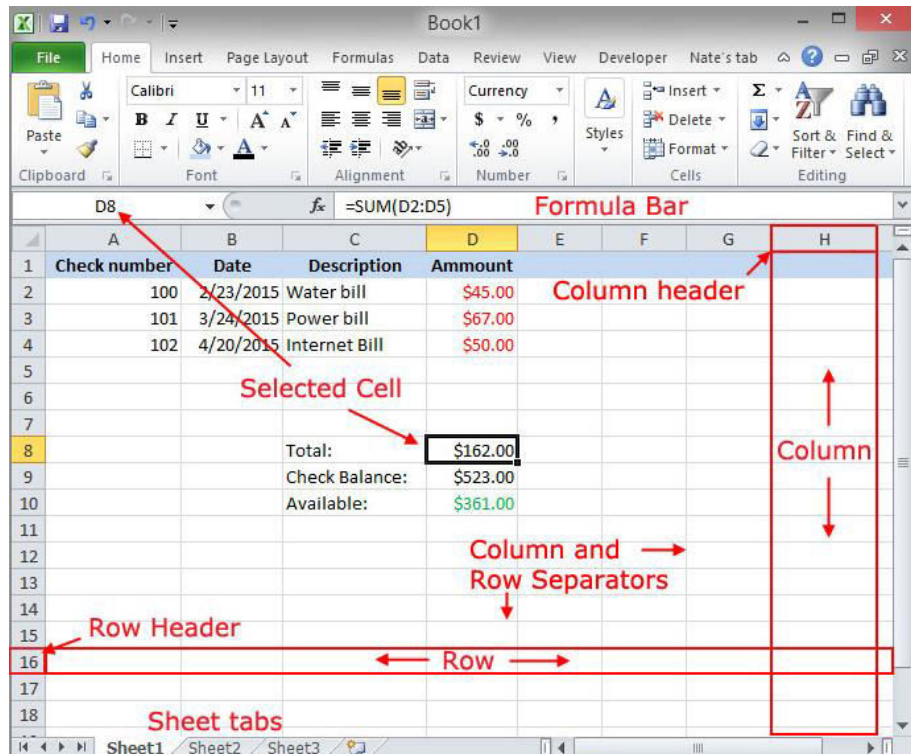- Processing student performance data

LOAD MS EXCEL

Method 1

- Click start button
- Point programs
- Click Microsoft Office

- Click Microsoft excel

Method 2

- Click start button

- Click search programs & files

- Type excel

- Press enter

CLOSE MS EXCEL

Method 1

- Click Office button

- Click exit

Method 2

- Click the X at title bar

Method 3

- Press alt+ F4 keys

FEATURES OF MS EXCEL WINDOW

Two windows

- Mother/ program window

- Document window

Work book

This is a single document in Microsoft excel. It can be created and saved individually for future retrieval. A single workbook is made up several worksheets.

Worksheet

This is the actual working area within a worksheet which is partitioned into rows and columns. A single worksheet would be composed of hundred pages.

Rows

These are horizontal subdivisions of the worksheet. There 65536 rows in a single worksheet.

Columns

These are vertical subdivision of the worksheet there 256 columns in a single worksheet i. e from column A to column IV.

Cells

They are the boxes created after rows and column intersect. It is within the cells where data is entered or typed.

Column headers

These are identifiers of individual columns within a worksheet. They are placed at the top of the worksheet and labeled A, B, C…

Row headers

These are identifiers of individual rows within a worksheet. They are placed at the left of the worksheet and labeled 1, 2, 3…

Cell reference/cell address

This is the identifier of particular cell or single range within a worksheet e. g A1, B12, F45 etc. range is selected and named group of cells. This can be noticed at the name box.

Formula bar

This is the space just above the column header whereby;

- Formulas and functions can be written direct (manually)
- Data within a cell can be edited
- Formulas functions and data within a cell can be viewed
- Function dialog box can be displayed by clicking the (FX)
- Formulas and function can be executed by clicking the green tick
- Formula and function can be cancelled by clicking red (X)

TO NAVIGATE THRO' A WORKSHEET

Navigate refers to working from one cell to the next as the user enters and manipulates data in a worksheet.

Items/ keys used to navigate a worksheet

Mouse pointer

The mouse is used to point and click a cell so as to select/ activate it. It is the active cell that accept data.

Arrow keys

Appropriately, arrow key are pressed to select7 activate a cell in any direction.

Tab key

When pressed the tab key selects/activates cells forward. It is ideal for horizontal entries

Enter key

When pressed enter key selects/ activates cells downwards. It is ideal for vertical entries.

Home key

When home key is pressed it selects/ activates the first cell in that row

Page up key

This key is pressed to scroll the worksheet upward screen after screen.

Page down key

This key is pressed to scroll the worksheet downward screen after screen.

Ctrl + arrow right

Select activate a cell in the last column

Ctrl + arrow left

Select/ activate a cell in the first column

Ctrl+ arrow down

Selects/activate a cell in the last row

Ctrl+ arrow up

Select/activate a cell in the first row

Ctrl+ home

Select/ activate the first cell in the worksheet

Ctrl+ end

Select/activate the last edited cell in a worksheet

Ctrl+ page down

Selects/ activate the next sheet at the sheet bar

Ctrl+ page up

Selects/ activate the previous sheet at the sheet bar

DATA TYPE IN SPREADSHEET

This refers to the kind of data typed or put into the cells. There are several of them:

Labels

These are alphabets such as peter, Mombasa or combination of alphabets and numerals such as p. o box 35708 Nairobi.

Values

These are the values like 0-9 entered into the cell

Formulas

Mathematical statements or expression consisting of constant and variables meant to give a certain return e. g $A=r^2h$

Functions

Functions are specially designed formulas within a spreadsheet meant to tackle specific calculation

Hyper-links

They are special addresses established in files to link them especially if the file have related information.

To add a new workbook

Method 1

- Click Office button
- Click new
- Click blank workbook

Method 2

- Press ctrl+ N

SAVE A WORKBOOK

Method 1

- Click office button
- Click save
- Type the file name
- Indicate the location to save the wb
- Click save

Method 2

- Click office button

- Click save as

- Type the Office button

- Indicate the location to save the wb

- Click save

Method 3

- Click save icon at the standard toolbar

- Type the file name

- Indicate the location to save the wb

- Click save

Method 4

- Press ctrl + s

- Type the file name

- Indicate the location to save the wb

- Click save

To open an existing workbook

Click office button

Click open

Indicate the location with the workbook

Select workbook

Click open

To close a workbook

Method 1

- Click office button

- Click close

Method 2

- Click the x at the title bar

Method 3

- Press alt + F4

To insert a new worksheet

By default, Microsoft office excel provides three worksheets (worksheet: the primary document that you use in excel to store and work with data. Also called spreadsheet. A worksheet consists of cells that are organized into columns and rows; a worksheet is always stored in a workbook. In a workbook, but you can insert additional worksheet (and other type of sheets, such as a chart sheet, micro sheet or dialog sheet) or delete them as needed. If u have access to a worksheet template (template: a workbook that u create and use as the basis for other similar workbooks. You can create a template for workbooks and worksheets.

The default template for a work book is called book. The default template for worksheet is called sheet. That you created or one that's available on the office online, you can base a new worksheet on the template.

The name of worksheet appears on its sheet tab at the bottom of the screen. By default, the name is sheet 1, sheet 2 and so on but you can give any worksheet a more appropriate name.

Rename worksheet

Worksheet may be given different names to enable the user distinguish the data created in each of them.

Method 1

- Select the worksheet at sheet bar
- Click home tab
- Click format under cells group
- Click rename sheet
- Type the new name
- Press enter key

Method2

- Double click the WS at sheet bar
- Type the new name
- Press enter key

Method 3

- Right click the WS at sheet bar
- Click rename
- Type the new name
- Press enter key

Re- arrange worksheet

This enable the user to give some priority to the worksheet by ordering them.

Steps to re- arrange worksheets

- Click worksheet to appear as the first
- Press LMB and drag to position
- Release the mouse
- To delete a worksheet

Method 1

- Select the worksheet at sheet bar
- Click home tab
- Click delete under the cells group
- Click delete sheet
- Click delete

Method 2

- Right click the worksheet at sheet bar
- Click delete
- Click delete for confirmation
- To insert a new column
- Steps to insert a column

Method 1

- Select the column to be preceded
- Click home tab
- Click insert under the cells group
- Click insert sheet column

Method 2

- Right click the column to be preceded
- Click insert

Resizing columns

This is increasing or decreasing the width of the column

Steps to resize a column

Method1

- Select the column
- Click home tab
- Click format under the cells group
- Click width
- Type measurement
- Click ok

Method 2

- Double click between column headers

Method 3

- Point between column headers
- Press and drag
- To delete a column

Method 1

- Select the column to delete
- Click Home tab
- Click delete under the cells group
- Click delete column

Method 2

- Right click the column to delete
- Click delete

To insert a new row

Method 1

- Select the row to be preceded
- Click Home tab
- Click insert under the cells group
- Click insert
- Click rows

Method 2

- Right click the row to be preceded click insert

Resizing rows

This is increasing or decreasing the height of the rows

Steps to resize a row

Method 1

- Select the row
- Click home tab
- Click format under the cells group
- Click width
- Type measurement
- Click ok

Method 2

- Double click between row headers

Method 3

- Point between row headers
- Press and drag appropriately

To delete a row

Method 1

- Select the row to delete
- Click Home tab
- Click delete under the cells group
- Click delete row

Method 2

- Right click the row to delete
- Click delete

HIGHLIGHTING DATA

This is to select a range in worksheet before editing or formatting has been done. Range is any group of cells selected for an aspect and to be treated a single block.

Steps to highlight data

Method 1

- Click the first cell in range
- Press LMB and drag to the end

Method 2

- Click on the first cell of the range

- Press down shift key

- Click the last cell in the range

Method 3

- Click the first cell in a range

- Press down the shift key

- Press arrow keys

Method 4

- Highlight first range press down the ctrl key

- Highlight the other ranges with mouse

To highlight single cell

Method 1

- Point and click the cell

Method 2

- Press the arrow keys till to the cell

- To highlight the entire worksheet

Method 1

- Press ctrl+ A

Method 2

Click the neutral header (at the top of the left of the worksheet)

SORTING DATA

Sorting is the arrangement of entries in a worksheet either in ascending order or descending order.

Label shall be arranged from the lowest to the highest and vice versa.

Sorting will enable the user tell the highest or the lowest scorer, the first or the last in the list of entries.

Steps to sorting data

- Highlight the data to sort

- Click home tab

- Click sort and filtering under the cells group

- Select the column to sort by

- Select the mode of sort

- Click ok

FILTERING DATA

Filtering is sieving a specific data if the data meets a certain criteria. It is important for only needed data can be viewed or analyzed.

Steps to filter data

- Highlight the data to filter
- Click home tab
- Click sort and filtering under the cells group
- Click filter button on desired column
- Click custom top ten or an entry
- Adjust appropriately
- Click ok

AUTO FILLING SERIES

These are entries that would follow a certain systematic order or sequence e. g

- Days of the week
- Months in a year
- Value like 1, 2, 3
- Any label plus value as the user may instruct the MS excel e. g day 1…..week 1 etc.

To remove filtering

- Click home tab
- Click sort and filtering under the cells group
- Click filter button

Steps to auto –fill series

- Make the first two entries
- Highlight the two entries
- Point the auto filing handle
- Press and hold down the left mouse button
- Drag to the desired direction

FREEZING PANES

This is anchoring the title for a particular data in order to keep the heading still while the rest of the data is scrolled, for instance in long list of items and the user does not want to lose the main headings after scrolling upwards. Also remember the screen cannot display 1000 entries at one go.

Steps to freeze panes

- Select the row or the column immediately after the row or column to freeze
- Click window menu
- Click freeze pane
- Scroll the data to confirm

Steps to remove freezing

- Click window menu
- Click unfreeze pane

COPYING/ MOVING WORKSHEETS

Worksheet can be moved from one position to another along the sheet bar within the same workbook or to different workbook. They can also be copied along the sheet bar within the same workbook or to a different workbook.

Steps to copying a worksheet

- Select the worksheet to copy
- Click Home tab
- Click move or copy sheet
- Indicate the new location or destination
- Click create copy
- Click ok

Steps to moving to moving worksheet

- Select the worksheet to move
- Click edit menu
- Click move or copy sheet
- Indicate the new location or destination
- Click ok

Using calculation operators in Excel formulas

Operators specify the type of calculation that you want to perform on the elements of a formula. There is a default order in which calculations occur (this follows general mathematical rules), but you can change this order by using parentheses.

Types of operators

There are four different types of calculation operators: arithmetic, comparison, text concatenation, and reference.

Arithmetic operators

To perform basic mathematical operations, such as addition, subtraction, multiplication, or division; combine numbers; and produce numeric results, use the following arithmetic operators.

Arithmetic operator	Meaning	Example
+ (plus sign)	Addition	3+3
– (minus sign)	Subtraction	3–1
	Negation	–1
* (asterisk)	Multiplication	3*3
/ (forward slash)	Division	3/3
% (percent sign)	Percent	20%
^ (caret)	Exponentiation	3^2

Comparison operators

You can compare two values with the following operators. When two values are compared by using these operators, the result is a logical value—either TRUE or FALSE.

Comparison operator	Meaning	Example
= (equal sign)	Equal to	A1=B1
> (greater than sign)	Greater than	A1>B1
< (less than sign)	Less than	A1<B1
>= (greater than or equal to sign)	Greater than or equal to	A1>=B1
<= (less than or equal to sign)	Less than or equal to	A1<=B1
<> (not equal to sign)	Not equal to	A1<>B1

Text concatenation operator

Use the ampersand (**&**) to concatenate (join) one or more text strings to produce a single piece of text.

Text operator	Meaning	Example
& (ampersand)	Connects, or concatenates, two values to produce one continuous text value	"North"&"wind" results in "Northwind"

Reference operators

Combine ranges of cells for calculations with the following operators.

Reference operator	Meaning	Example
: (colon)	Range operator, which produces one reference to all the cells between two references, including the two references.	B5:B15
, (comma)	Union operator, which combines multiple references into one reference	SUM(B5:B15,D5:D15)
(space)	Intersection operator, which produces one reference to cells common to the two references	B7:D7 C6:C8

Operator precedence in Excel formulas

If you combine several operators in a single formula, Excel performs the operations in the order shown in the following table. If a formula contains operators with the same precedence—for example, if a formula contains both a multiplication and division operator—Excel evaluates the operators from left to right.

Operator	Description
: (colon) (single space) , (comma)	Reference operators
–	Negation (as in –1)
%	Percent
^	Exponentiation
* and /	Multiplication and division
+ and –	Addition and subtraction
&	Connects two strings of text (concatenation)
= < > not equal	Comparison

<=less than or equal >= grater than than or equal	

FUNCTIONS

Function are special built-in formulas within the spreadsheet designed to work out a specific return. Function are categorized depending on their areas of application and the user chooses a function that is conversant and appropriate. For instance there are financial, logical, text, database, statistical, math and trig, date, time etc.

Components of function

- Equal sign
- Functional name
- Argument

=SUM (A2:A6)

Equals sign (=)

The equal sign initiates a formula. It lets MS excel prepare for calculation. Lack of the equal sign makes the formula statement remain as any other data.

Function name

This tells the user what kind of calculation the function will undergo. For instance, sum means addition of the values will take place; average means arithmetic means will be worked out etc.

Argument

This is the range or group of cells with values to be worked out. The argument could be single or multiple.

It should be enclosed in parenthesis (opening and closing brackets)

If a math function is being performed the math formula is surrounded in parentheses.(Alternatively referred to as the a **curved mark**, **open parenthesis** and **close parenthesis**. **Parenthesis** are an outward "(" or inward ")" curved line found on the "9" and "0" keys on a U.S. keyboard.)

Using the colon (:) allows you to get a range of cells for a formula. For example, A1:A10 is cells A1 through A10.

=

= will create a cell equal to another. For example, if you were to put =A1 in B1 what ever was in A1 would automatically be put in B1. You could also create a formula that would make one cell equal to more than one value. For example, if you have a first name in cell A1 and a last name in cell B1, you could put in cell A2 =A1&" "&B1 which would put cell A1 in with B1 with a space between. You can also use a <u>concatenate</u> formula to combine cell values.

AVERAGE

=AVERAGE(X:X)

Display the average amount between cells. For example, if you wanted to get the average for cells A1 to A30, you would type: =AVERAGE(A1:A30).

COUNT

=COUNT(X:X)

Count the number of cells in a range that contain only numbers. For example, you could find how many cells between A1 and A15 contain a numeric value by using the =COUNT(A1:A15). If cell A1 and A5 only contained numbers the value of the cell that contains this function would be equal to "2."

COUNTA

=COUNTA(X:X)

Count the number of cells in a range that contain text and are not empty. For example, you could count the number of cells containing text in cells A1 through A20 by using the =COUNTA(A1:A20). If seven cells were empty the number "13" would be returned.

COUNTIF

=COUNTIF(X:X,"*")

Count the cells that have a certain value. For example, if you have =COUNTIF(A1:A10,"TEST") in cell A11, then any cell between A1 through A10 that has the word test will be counted as 1. So if you have 5 cells in that range that contain the word test, A11 would say 5.

IF

=IF(*)

The syntax of the IF statement are =IF(CELL="VALUE" ,"PRINT OR DO THIS","ELSE PRINT OR DO THIS"). So a good example of the syntax would be =IF(A1="","BLANK","NOT BLANK"), this would make any cell besides cell A1 say "BLANK" if a1 had nothing within it, and "NOT BLANK" if any information was within it. The if statement can, of course, become a lot more complicated but can be reduced if following the above structure.

INDIRECT

=INDIRECT("A"&"2")

Returns a reference specified by a text string. In the above example, the formula would return the value of the cell contained in A2.

=INDIRECT("A"&RANDBETWEEN(1,10))

Returns the value of a random cell between A1 and A2 using the indirect and randbetween (explained below) functions.

MEDIAN

=MEDIAN(A1:A7)

MIN AND MAX

Find the <u>median</u> of the values of cells A1 through A7. For example, four is the median for 1, 2, 3, 4, 5, 6, 7.

=MIN/MAX(X:X)

Min and Max represent the minimum or maximum amount in the cells. For example, if you wanted to get the minimum value between cells A1 and A30 you would put =MIN(A1:A30) or if you wanted to get the Maximum about =MAX(A1:A30).

PRODUCT

=PRODUCT (X:X

Multiples multiple cells together. For example =Product (A1:A30) would multiple all cells together, so A1 * A2 * A3, etc.

RAND

=RAND ()

Generates a random number greater than zero but less than one, For example, "0.681359187" could be a randomly generated number placed into the cell of the formula.

RANDBETWEEN

=RANDBETWEEN (1,100)

Generate a random number between two values. In the above example, the formula would create a random whole number between 1 and 100.

SUM

=SUM(X:X)

The most commonly used function to add, subtract, multiple, or divide values in cells. Below are some examples.

=SUM(X+X)

=SUM(A1+A2)

Add the cells A1 and A2.

=SUM(A1:A5)

Add cells A1 through A5.

=SUM(A1,A2,A5)

Adds cells A1, A2, and A5.

=SUM(A2-A1)

Subtract cell A1 from A2.

=SUM(A1*A2)

Multiply cells A1 and A2.

=SUM(A1/A2)

Divide cell A1 by A2.

SUMIF

=SUMIF(X:X,"*"X:X)

Perform the SUM function only if there is a specified value in the first selected cells. An example of this would be =SUMIF(A1:A6,"TEST",B1:B6) which only adds the values B1:B6 if the word "test" was put somewhere in between A1:A6. So if you put TEST (not case sensitive) in A1, but had numbers in B1 through B6, it would only add the value in B1 because TEST is in A1.

TODAY

=TODAY ()

Would print out the current date in the cell entered. This value will change to reflect the current date each time you open your spreadsheet. If you want to enter a date that doesn't change hold down **CTRL and ;** to enter the date.

TREND

=TREND(X:X)

To find the common value of cell. For example, if cells A1 through A6 had 2,4,6,8,10,12 and you entered formula =TREND(A1:A6) in a different cell, you would get the value of 2 because each number is going up by 2.

VLOOKUP

=VLOOKUP (X, X:X, X, X)

The lookup, HLOOKUP, or VLOOKUP formula allows you to search and find related values for returned results. See our lookup definition for a complete definition and full details on this formula.

RANK Function

RANK Function Arguments. order: (optional) This argument tells **Excel** whether to **rank** the list in ascending or descending order.

RANK Function Arguments

There are 3 arguments for the RANK function:

number: in the above example, the number to rank is in cell **B2**

ref: We want to compare the number to the list of numbers in cells **$B$2: $B$11**. Use an absolute reference ($B$2: $B11), instead of a relative reference (B2:B11) so the referenced range will stay the same when you copy the formula down to the cells below

order: (optional) This argument tells Excel whether to rank the list in ascending or descending order.

Use zero, or leave this argument empty, to find the rank in the list in descending order. In the example above, the order argument was left blank, to find the rank in descending order.
=RANK(B2,$B$2:$B$11)

For ascending order, type a 1, or any other number except zero. If you were comparing golf scores, you could type a 1, to rank in ascending order.
=RANK (B2, $B$2: $B$11,1)

IF FUNCTION

This is logical function that returns one value if a condition specified evaluates to true and another value evaluates to false. It compares two value; that is if not true it is false.

Syntax

IF (logical_test, value_if_true, [value_if_false])

For example:

=IF(A2>B2,"Over Budget","OK")

Logical test

This is the value that is chosen to be evaluated to either true or false. It is the argument value.

Value if true

It is value that shall be returned if the logical test is true

Value if false

It is the value that shall be returned if the logical test is false

Here are some additional examples of formulas that you can enter in a worksheet.

AND FUNCTION

The **AND Function** returns TRUE if all conditions are true and returns FALSE if any of the conditions are false.

1. Select cell D2 and enter the following formula.

	A	B	C	D	E	F	G	H
D1			f_x =IF(AND(A1>10,B1>5),"Correct", "Incorrect")					
1	12	3	Correct	Incorrect				
2								
3								

The AND function returns FALSE because the value in cell B2 is not higher than 5. As a result the IF function returns Incorrect.

OR FUNCTION

The **OR function** returns TRUE if any of the conditions are TRUE and returns FALSE if all conditions are false.

1. Select cell E2 and enter the following formula.

	A	B	C	D	E	F	G	H
E1			f_x =IF(OR(A1>10,B1>5),"Correct", "Incorrect")					
1	12	3	Correct	Incorrect	Correct			
2								
3								

The OR function returns TRUE because the value in cell A1 is higher than 10. As a result the IF function returns Correct.

General note: the AND and OR function can check up to 255 conditions.

=SQRT(A1)   Uses the <u>SQRT function</u> to return the square root of the value in A1.

=UPPER("hello")   Converts the text "hello" to "HELLO" by using the <u>UPPER function</u>.

=IF(A1>0)   Tests the cell A1 to determine if it contains a value greater than 0.

Constructing or writing a formula

Writing or constructing a formula the user may design or construct to come up with own form.

This happen especially when the spreadsheet does not provide a suitable function to attain duty required

To apply a function

To apply a function, the user can enter/ insert one from a list or type the function direct at the formula bar. Whether it is from a list or typing direct the cell for the returns first should be selected.

Steps to enter function

Method1

- Select the cell for return
- Click Formulas tab
- Click insert function under the function library
- Select function category
- Select function name
- Click ok
- Select the range/ argument
- You may fill other details
- Click ok
- Press enter key
- Click the green tick at the formula bar

Method 2

- Select the cell for return
- Click (fx) at the formula bar
- Select function category
- Select function name
- Click ok
- Select the range/ argument
- You may fill other details
- Click ok
- Press enter key
- Click the green tick at the formula bar

Steps to type a function direct

- Select the cell for returns
- Type equal sign
- Type the function name
- Type open bracket
- Type the range/ argument
- Type close bracket
- Press enter key

- Click the green tick at the formula bar

To cancel a calculation

Method 1

- Select the cell of calculation
- Click the red X at the formula bar

Method 2

- Click cancel button if there is a dialog

Method 3

- Select the cell of calculation
- Press escape key

Method 4

- Select the cell of calculation
- Press delete key

To auto- fill a function or a formula

This is done after getting the 1st answer within a cell for the first entry and so as apply the same function/ formula to the rest of the entries providing respective return.

Steps to auto- fill

- Calculate the 1st return for the 1st entry
- Select the cell with return for the 1st entry
- Point the auto-filling handle
- Press and hold down the LMB
- Drag to desired direction

REFERENCING

This is a method of filling cell address into other especially when the formula has been used so as to cell to change freely.

Types of referencing

❖ **Relative referencing**

This is whereby the 1st return/ entry is obtained and auto filling is done in order to effect the return for the other entries, here the function name doesn't change but the argument does

❖ **Absolute referencing**

This indicate the same reference that is not meant to change during auto filling after the value within the cell has been incorporated to a function or formula

Steps to absolute referencing

- Ensure there is a cell any place in the worksheet that has value to be applied for absolute ref.
- Select the cell for the returns
- Type the equal sign
- Click the cell with absolute value
- Press F4 to make it constant/ absolute
- Type an operator if any
- Click the argument cell
- Click press enter key
- Auto fill for the rest of the entries

DATA VALIDATION

It is a logical command that sets criteria on a particular cell or cells to control/ restrict the data entered in the cell e. g if the user want to put a limit in an intake, or if one wants to put some age limit for the retiring employees.

Steps to data validation

- Highlight cells to validate
- Click Data tab
- Click data validation under the data tools group
- Set the Settings, Input message and Error alert
- Click ok

HYPERLINK

This is an address that is established to link two or more files especially if they have related information.

Steps to hyper link

- Ensure two or more files to hyperlink exist
- Open one file
- Highlight a portion to act as a link
- Click insert tab
- Click hyperlink
- Browse for the path of the link file
- Click ok

- Click the link to connect to other file

- Repeat the above process to establish another link and so forth

COMMENTS

Comments are details hidden within a particular cell, telling more about the cell.

Steps to insert comments

- Select the cell to comment on

- Click review tab

- Click new comment

- Type the details

- Click away

Steps to read a comment

- Point the cell with the comment (this cell has a red triangle at its top right corner)

- Steps to remove comments

- Click the cell with the comment

- Click review tab

- Click clear comments

FORMATTING A WORKSHEET DATA

This determine the way the worksheet data would appear as displayed on the screen and on print outs. When formatting the following may be applied

TAB	Formatting effect
Number	General, number, text, percentage, fraction, accounting, currency, date, time, scientific
Alignment	Horizontal align, vertical align, text control, text direction, orientation etc.
Font	Font colours, font style, font type, font size, underline, text effect etc.
Border	Line style, border colour, boarder presets etc.
Pattern	Cell shading, cell pattern etc.

Steps to format worksheet data

- Highlight the data to format

- Click home tab

- Click format

- Click on appropriate tab
- Apply appropriate formatting aspects
- Click ok

COPYING FORMATS

Formats here mean some editing or decorative aspects that have been applied in a particular worksheet e. g formula, comments, validation, gallery etc. therefore if ma data has some of these aspects the formats can be copied and pasted individually at time.

Steps to copy formats

- Select the data
- Click home tab
- Click copy
- Select sheet to place the copied format
- Click home tab
- Click paste special
- Select the type of format
- Click ok

CHART

Chat are objects that can be used to present a numerical data effectively in graphs. This kind of presentation is more elaborate especially when analyzing trends, development or growth of events or activities. There are several types of chart namely;

- Bar chart
- Pie chart
- XY scatter chart
- Line chart
- Column chat

Each of the chart type also has various chart subtype, for instance the bar chart has following

Clustered column

100% sucked column

Stacked column

Steps to create a chart

- Highlight the data
- Click insert tab

- Select chart type

- Select chart subtype

- Follow the wizard till the end

- Click finish

VARIOUS PARTS OF CHAT

There are several parts that make a chart. These include the following:

a) Chart tittle

This tells one what the chart is all about

b) Chart area

The space occupied by all the components of the chart.

c) Plot area

The space in the chart area that holds the graph. Graph represents the data series.

d) Legend

The key or description of the grouped items represented by different colours

e) Axes

The outer lines that define or mark the graph

f) Series

The individual items either in labels or values containing data. They are usually in the cells.

g) Gridlines

The partitions of the chart walls. These are minor and major gridlines on both category axis and value axis

h) Chart wall

The vertical space where the graph leans on

To format parts in a chart

Method 1

- Select the part to format

- Click format menu

- Click select (name of the part)

- Format accordingly

- Click ok

Method 2

- Select the part to format

- Right click the selected part

- Click format (the name of selected part)

- Format accordingly

- Click ok

MICROSOFT ACCESS

Microsoft access is a database tool or package which is used to prepare, organize and maintain, usually very huge and complex amount of information

Benefits of access

- Large virtual storage for the data
- Easy maintenance
- Accurate updating
- Fast retrieval of well-organized information

Application of access

- Organization of customer addresses and their details in postal and telephone agencies
- Organization of plight information
- Organization and maintenance of employee records in the place of work
- Preparation and organization of books details in the library
- Preparation of basic programming

Example of other databases

- Fox pro
- Dbase
- Paradox
- Fox base
- Oracle etc.

LOADING MS ACCESS

Method 1

- Click start
- Point all program
- Point Microsoft office
- Click Microsoft access

COMMON TERMS USED IN MS ACCESS

❖ **Database**

This is a single file in MS access that can be saved as a single unit of data. The database shall consist of all the components of MS access together with their respective data.

❖ **Database window**

It is the window that appear when you open access database or an access project. The window displays shortcuts for creating a new database object/ components and opening existing ones.

❖ **Design view**

It is the window that shows the design of this database object or components I. e the table, queries, forms, report, etc. within the design view the user can create new database objects and also modify the design of existing ones.

❖ **Design grid**

This is the grid or table that is used to design/ and modify a query or filter in query design view or the advanced filter/ sort window. On this table the user places the required field, criteria, expression etc. for a inquest.

These are filtered records or the results which are returned after the database has been questioned for specific records using a query.

Structure query language

❖ **Datasheet**

This is the working area that contains the actual data within the components and to be specific table. The datasheet is portioned into columns (fields) and rows (records)

COMPONENTS OF MS ACCESS

These components are also referred to as database objects. They are small programs that handle specific data in a database though the data is related they include;

- The table
- The quires
- The forms
- The reports
- The macros
- The modules etc.

The table

It is the basic components of MS access that holds data in fields (columns) and records (rows). Table may also be referred to as file for it holds basic data: it can be opened, closed, copied, renamed, deleted etc.

The field

It is a column within the table with similar data about an entry such as person, a place, an event, a item etc. for instance

If a table has field named city it is expected to have a list thus: London, Nairobi, Paris etc. and not £500. When typing the field name, it accommodates up to 64 characters.

Records

This is full collection of details about an entry in a table always running in a row e.g. id no, gender, age etc.

Primary key

This is a special field that is established to:

Automatically increment a record after a previous one

Check any duplication of records

Automatically creare linking joint between or among the tables or queries in relationship.

Set up the primary key

Method 1

- Open the table
- Click home tab
- Click view and select design view
- Select the field to make primary key
- Click design tab
- Click primary key
- Save the changes
- Close the table design view

Method 2

- Open the table
- Click home tab
- Click view and select design view
- Right click the field to make primary key
- Click primary key
- Save the changes
- Close the table design view

Remove the primary key

Method 1

- Open the table
- Click home tab

- Click view and select design view
- Select the field to make primary key
- Click design tab
- Click primary key
- Save the changes
- Close the table design view

Method 2

- Open the table
- Click home tab
- Click view and select design view
- Right click the field to make primary key
- Click primary key
- Save the changes
- Close the table design view

DATA TYPES

Data types is an attribute given/ attached to field so as to check and determine the kind of data that should be contained in the field. Each data type is again accompanied by a number of properties.

Example of data types

Text

it determines or allows

Labels e.g. Pete, Nairobi etc.

Value e.g. 9012, 45.45 etc.

Alpha numeric e.g. p.o box 500 mks etc.

This data type can allow or hold up to 255 characters including spaces. in most instances, when no data type is chosen, text is returned as a default data type in a field.

Memo

Determine alpha-numeric data i.e. both value and labels that run into several sentences. it can hold up to maximum of 64000 characters including spaces.

Number

Determine numerical entries especially for only the mathematical/ calculation and not monetary values e.g. 13003 etc.

Currency

Determine data with monetary value e.g. kshs 250, £300 etc.

Dates and time

Determine chronological entries e.g. 3/5/2015, 3pm etc.

Yes or No

This data type evaluates two conditions that could results to true or false, on or off. The field with data types shall be shown in boxes. To choose a check box is clicked to show tick inside. To remove the tick click again and it disappears.

Auto-number

it is a numerical value MS access shall automatically increment each time new record is entered. it is ideal when entering serial numbers.

OLE Object

OLE stands for Object Linking and Embedding. The data type is used to determine inserted graphical data such as charts, pictures, etc. within the field.

Creating a new database

Guidelines to design a ideal database

Study the user's requirement in order to define all data inputs, outputs, and relationships.

Design a draft database on a paper to determine the number of files or tables required.

Normalize the database. This is to separate the entire information into field's records and table to allow easy manipulation of the database

Set a primary key on an appropriate field to uniquely identify each records.

Give priority to important fields especially those which should be sorting, filtering, querying etc.

STEPS TO CREATE A NEW DATABASE

- Open MS access
- Click office button
- Click new
- Click blank database
- Type a filename for the database
- Indicate the location to save the database
- Click create button
- You may create the table

OPENING AN EXISTING DATABASE

- Open MS Access

- Click office button

- Click open

- Indicate the location to find the database

- Select the name of database

- Click the database to display

- Click open

- Open an object or create a new one

CREATING A NEW TABLE

- Point to note before creating a table

- Sketch and group up all the fields

- Establish appropriate data types, field, properties etc. for each field

- Establish the description for each field

Steps to create a new table

- Open the database

- Click table tab

- Click new

- Click design view

- Click ok

- Type the field name

- Enter respective data types

- Enter properties for each data type

- Enter details for description

- Click Office button

- Click save

- Type the table name

- Click ok

- Click yes or no to the primary key

- Close the table design window

- Open the new table

- Enter the records accordingly

The field properties

These are additional attributes added to field data so as to restrict the data entered within the field. Different field types will go with different field properties

Example of Field Properties

1) **Field size**

This allows the user to set the limit to the number of character that a field should accommodate. E.g. text data type may take 30, 15, 125 etc. number data type may take integer, long integer etc.

2) **Format**

This property will determine how information will appear on screen or print out. E.g. number data type may have currency, scientific, percentage, etc. formats. The date/ time data type may have long date, long time, short date, short time etc. formats.

3) **Decimal places**

For currency or number data types the user may choose a number of decimal place for the values.

4) **input mask**

When chosen or set the input mask automatically puts dates in a specific format.

This can be evident in many values found in phone number e.g. 000-000-000000 setting will put the phone number 254733888222 as 254-733-888222

5) **Caption**

This is more detailed information about a certain field for instance **student Name** could have its caption as student, name

6) **Default value**

This is the value that is set or programmed to be automatically returned if the user does not enter any value within a field e.g. the user does not choose any data type for a field the text data type will automatically be inserted. Or the=date0 is a default value set to return the current system date in a date field if none is indicated.

7) **Validation rule**

It is a logical expression which is set to specify which values are to be entered into a field and also restrict others e.g.=o and =100 indicates that only value between zero and hundred are accepted into the field.

8) **Validation text**

This is the message that should be returned in case the validation rule above, if it is violated the message may be reported as 'please enter a value between 0 and 100"

9) **Required**

This will determine whether a value must be entered within a certain field. This means the field cannot be left blank. Notice this when choosing data types and try to leave it blank, you cannot be allowed to continue

10) **Allow zero length**

Here the user is allowed to continue even without having to enter any value within a field. A zero value will be seen in that field.

11) **Indexed**

As a property, indexed is set to check any duplication (double entry) of the same records.

To apply a field property

- Open the table with the field to apply the property
- Click view menu
- Click design view
- Select the field to the property
- Apply appropriately from the display

To add a new record to a database

Method 1

- Open the table
- Click records menu
- Click data entry
- Enter the details in the row
- Press enter key

Method 2

- Click new record icon on the standard toolbar when the table is open
- Enter the details
- Press enter key

Note: Records can also be added into the database through;

- The form
- Append query

Deleting a record from the database

Method 1

- Select the record to delete
- Click home tab
- Click delete record
- Click yes

Note: records can also be deleted from a database through:

- The form
- The query

To add a new field to a table

Method 1

- Open the table
- Click home tab
- Click view and select design view
- Select the row with the field to be preceded the new field
- Click insert menu
- Click rows
- Type the field name, the data type, the properties and description
- Save the changes
- Close the table design view window

Method 2

- Open the table
- Right click the row with the field to be preceded by the new field
- Click insert column
- Double click the field header
- Type the field name
- Press enter key

Deleting a field from a table

Method 1

- Open the table
- Select the field to delete
- Click home tab

- Click delete column
- Click yes

- Open the table
- Click edit menu
- Click find
- type the record to be found
- Click find next button
- Click cancel button when through

Finding records using wild cards

Wild cards are characters or symbols that are attached to word bits in order to find records with the similar ending or beginning etc. use the wild cards speeds the search of such records.

Example of wild cards

The asterisk (*)

This can be placed before or after the word e.g.

Every*-finds words such as

Everyone

Everybody

Everything

*home-finds words such as;

Sweet home

Their home

N*-find entries beginning with N:

Nairobi

*N-finds entries ending with N:

London

The question mark (?)

?ion-this will find entries such as

National

Calculation

Steps to find records using wild cards

- Open the table

- Click edit menu

- Click find

- Type the record to be found

- Insert the wild card appropriately

- indicates the field

- Click find next button

- Click cancel button when through

RELATIONSHIP

Sometimes the user may need to create a query but the field to make the query could be in different tabbies or queries. A relationship is therefore required in order to accomplish this. Relationship is a way of linking up tables and queries to enable the data among the tables or the queries easily and sensibly be shared. A relationship is normally created to avoid an absurd duplication of records from unlinked table or queries.

Join lines

Join lines is the link that connects two or more tables or queries. A join enable MS access detect and compare related information in different tables or queries and determines how to display the requested information.

Concatenated query

This is refined and sensible query that is acquired after a relationship has been established among tables or queries.

Cartesian product query

It is a non- sensible query obtained when a relationship is not established because there is a lot of abnormal duplication of same records.

Steps to create a relationship

- Open the database

- Click tools menu

- Click relationship

- Select the table or queries

- Click add button

- Click close button

- Drag a field from table A and place it on another in table B

- Click create button

- Repeat the above to join a third table a fourth and so forth

- Save the relationship

- Close the relationship window

- You may create a query from the relationship

Points to note before creating a relationship

The join fields used to join two tables or queries must have same data types

Data types such as memo may hinder a query being created from a relationship

Sometimes a join created during query applies only for that particular query especially joins are crated direct in the query design view

In some instance access automatically creates joins: That is;

If you have two tables and each table has similar fields with same data type and same name and a relationship has been created between the tables

If one of the joined field is a primary key.

To design a query from relationship

- Click queries tab

- Click view

- Click design view

- Select the tables or queries to link

- Click add button

- Click close button

- Drag the respective field into the grid

- Set/ type the criteria if necessary

- Click query menu

- Click run

- Save the query

- Close the query

Steps to delete a relationship

Method 1

- Click join lines

- Click edit menu

- Click delete

- Click yes

Method 2

- Right click a join line

- Click delete

- Click yes

- Save the changes

Method 3

- Click join lines

- Press delete key on the keyboard

- Click yes

- Save the changes

SORTING RECORDS IN THE OBJECTS

(TABLE/ QUERY/ FORM/ REPORT)

Sorting in computer has been dealt with in the previous applications; the concept is the same in this application

Steps to sort records

Method 1

- Position the cursor in the field to sort

- Click record menu

- Point sort

- Click ascending r descending

Method 2

- Right click the field to sort

- Click ascending or descending

FILTERING RECORDS

This is going into database to retrieve some records after supplying some criteria. Filtering in MS access is normally done to the table. It is important for it helps retrieve specific records fast just for reviewing at a glance. if the retrieval is often the query should be created.

Steps to filter records in table

Method 1

- Open the table with the records to filter

- Click records menu

- Point filter

- Click advanced filter/sort

- Indicate the mode of sorting

- Drag into grid the field

- Type the criteria if any

- Click filter menu

- Click apply filter/sort

Method 2

- Open the table

- Position the cursor into the field with the aspect to filter by

- Click the apply filter icon

To remove a filter

Method 1

- Click records menu

- Click remove filter

Method 2

- Click the remove filter icon at standard toolbar

QUERIES

Query is one of the database objects. it is an electronic questionnaire that delves into the database to filter specific records, if the records meet certain criteria. A query is made from an existing table or from another existing query. They can be used to produce forms and reports. Queries can also be used to perform calculation on records with the database.

Steps to create a select query

- Ensure there is table or another query to base the query to be created on

- Click queries tab

- Click new

- Click design view

- Select the table or query on which base the query

- Click add button on the dialog box

- Click close button

- Drag the required fields into the grid

- Indicate this mode of sorting

- Type the criteria

- Click query menu

- Click run

- Click Office button

- Click save

- Type the query's name

- Click ok

- Close the query

BASIC CALCULATIONS USING QUERIES

If a query has numerical data, it is very possible to work out returns for total, subtraction, average etc. For instance, if the query displays the student paying and their balance then to get the total fee is same as payment/ balance

Steps to set calculation statement

Create a query in design view

Position the cursor in an empty cell among the field row

Type an expression to achieve the required returns thus; total fees: (payment) + (balance)

Run the query

Save the query

Close the query

USING TOTAL FUNCTIONS IN QUERIES

MS access has inbuilt functions that can be used to analyze records in the database. Functions such as sum, average, minimum, count, stdev. May be used.

Steps to use a total function

- Create/ open a query in design view

- Click view menu

- Click totals (notice the total field appearing and group by each field along that row)

- Click drop down list on the required field

- Select a desired function

- Set criteria if need be

- Run the query

- Save the query

- Close the query

FORMS

Forms is a background or screen that is used to display records for easy viewing in some style and some layout. A form can be used to enter new records into the database thus updating the database. A form is usually created from a table or query.

Steps to a form (using a form wizard)

- Ensure there is a table or query on which to base the form to be created click forms
- Click new
- Click form wizard
- Select the table or query to base the form
- Click ok
- Select the fields to consist of the form
- Click next
- Select the layout for the form
- Click next
- Select a style for the form
- Click next
- Type the forms name
- Click finish
- Edit/ and format the form
- Close the form

REPORT

Report is a summary of details extracted from the database either from the tables or from the queries

Like the form report display records in some grouping, some style and some layout. It can also be used for calculation and setting expressions within the database.

Steps to a report (using the report wizard)

- Ensure there is a table or query on which to base the report to create.
- Click report
- Click new
- Click report wizard
- Select the table or query to base the report
- Click ok

- Select the field required for the report
- Click next
- Group the field if need be
- Click next
- Sort the field if need be
- Click next
- Select the format or layout for the report
- Click next
- Select a style for the report
- Click next
- Type the name for the report
- Click finish button
- Edit and format the report
- Close the report

Steps to edit and format the form

- Open the form
- Click view menu
- Click design view
- Select the area to edit or format
- Click on format
- Apply the required aspect
- Click view menu
- Click form view

Steps to edit and format the report

- Open the report
- Click view menu
- Click design view
- Select the area to edit or format
- Click format menu
- Apply the required aspects
- Click view menu
- Click layout preview

Various sections of a form or report

Form header/ report header

This part contains the title of the form or the report and is usually printed once at beginning of the form or the report.

Page header

This contains information to be printed at the top of each page of the form or the report if the form or the report has several pages. It could be title column heading, dates or page number. in a form the page header will appear only when the form is printed.

Details

This is the main area or body of a form or report it usually contains controls bound to the fields in the record source4 but can also contain unbound controls, such as label that identify a field information that is printed for each record in the table or in the query.

Group header

This section contains information that is printed at the beginning of each field. This section will be present only in the report and if there are grouped field.

Page footer

This section contain that information which is meant to be printed at the end of each page of a form or a report. The information could be the page summary, page number, date etc.

Group footer

This section contains information that printed once at the end of the form or the report.

ACTION QUERIES

We already have dealt with queries. Those queries are known as select queries. We have also learnt that queries delve into the database for specific data which meet a certain criteria or condition. There are also other queries which go further than the select queries making changes to the database. These are referred to as action queries. There are four action queries namely; app and query, make table query, update query, and delete query.

Update query

This query can be used to make changes (update) to a database, for instance to increase employees salary in job group A, B and C by a certain percentage, let's say 10% or it can be used to replace residents of Mombasa to Nairobi or even students indicated as not cleared to cleared; within the database of course

Steps to update query

- Click queries tab

- Click new

- Click design view

- Click ok

- Click the table/ query with fields to updates

- Click add

- Click close

- Click query menu

- Click update query

- Drag the field to update into the grid

- Type the expression that will update the records into the update to row

- Type/ set the criteria to specify exactly which records to update

- Click view menu

- Click datasheet view

- Click view menu again

- Click design view

- Run the query

- Click yes to confirm the update changes

- Save the update query design view

- Close the design view

Append query

Append means add and therefore this query will be used to add more records into the database usually several and specific at one go. This process may be important if similar tables exist independently and there is need to make them one.

Steps to append query

- Click queries tab

- Click new

- Click design view

- Click ok

- Click the table/ query to extract records to be appended

- Click add

- Click close
- Click query menu
- Click append query
- Type/ select the name of the table into which to append new records
- Click current database or another database
- Click ok
- Drag the field with records to be appended into the grid
- Type the criteria to specify exactly which records to append
- Click view menu
- Click database view
- Run the query
- Click yes to confirm the append changes
- Save the append query design view
- Close the design view

Make table query

This kind of query will be used to create a new table from existing database or to be specific an existing table. So a smaller table may be extracted from a bigger one.

Steps to make table query
- Click queries tab
- Click new
- Click design view
- Click ok
- Click the table/ query from where to extract fields for new tables
- Click add
- Click close
- Click query menu
- Click make table query
- Type the new table's name
- Click current database or another database
- Click ok
- Drag the field to consist of the new table into the grid
- Type the criteria to specify exactly which records to make the new table

- Click view menu

- Click database view

- Click run query

- Click yes to confirm the make table changes

- Save the make table query design view

- Close the design view

MICROSOFT POWER POINT

MS power point is an application package under the category presentation tools. It is ideal for giving presentation and slide showers. Presentation is a single file/ document created in MS power point slides are individual working areas in a presentation. They equate the pages in word processor.

Application of MS power point

- Marketing company
- Giving an organizational over view
- Advertisements in the media especially TV
- Trade fairs and exhibitions
- Awareness campaigns
- Sales report and figures presentation
- Lecturing tool
- Entertainment

Advantages of presentation software

- Presentation software is incredibly easy to learn how to use.
- It is supplied with a large library of background templates and custom layouts
- Multimedia can easily be added to the presentation
- Presentations are easy to edit
- Presentations can be easily output to different formats e.g. interactive whiteboard, digital projector, handouts
- Excellent for summarizing facts
- Great for showing graphs/charts/diagrams to an audience
- Can create a set of handouts for people to write on whilst presentation being given
- Allows you to face your audience and make eye contact rather than facing the screen.

Steps to blank presentation

- Open MS power point
- Click office button
- Click new
- Click bank presentation
- Select slide auto layout

- Enter and format accordingly

To add a new slide to a presentation

Method 1

- Click home tab

- Click new slide

- Select slide layout

- Edit and format appropriately

Method 2

- Press ctrl +M

- Select slide auto layout

- Edit and format appropriately

Color scheme

Color scheme is a set of eight balanced colors that can be applied to slides not pages or audience handouts. a color scheme consists of background color a color for lines and text, and six other colors selected to make slides easy to read

Steps to apply a color scheme

- Open the presentation

- Click the slide to apply

- Click design tab

- Click color scheme

- Click desired color scheme

- Click color schemes

- Click edit scheme

- Click standard

To apply font attributes to a slide

- Select the slide

- Select the area to apply the attribute

- Click home tab

- Choose aspects appropriately

Slide background

This is the beneath surface on the slide where the data rests. Background could be color or fill effect such as gradient, texture, pattern and picture

Steps to apply background

- Open presentation
- Click design tab
- Click back ground style
- Click the drop down list
- Select a color for the background
- Click apply to all
- Click fill effects
- Adjust appropriately
- Click ok

Change a design in a presentation

Slide design are normally applied to blank presentations in order to upgrade the. They can also be applied to replace an existing design. They can also be applied to replace an existing design. The designs will be obtained from the design templates

Steps to apply change a design

- Open the presentation
- Click design tab
- Select desired design under themes group
- To insert objects to a slide
- Select the slide
- Click insert menu
- Click object
- Select desired category
- Select desired object
- Click ok

Slide view

Slide or presentations can be viewed in various ways: normal, outline, slide sorter, notes page and slide show etc.

Normal view

This is a window whereby we can scroll to view all the slides within a presentation one at time, in this window we can edit, copy, cut, paste, format and insert graphics etc. Under normal view there is either slides view or outline view.

Steps to a normal view

- Click view menu
- Click normal

Slides view

This view displays all the slides numbered 1st to the last and if any has custom animation. The user can select a slide from this view and edit or format it in the main normal view.

Steps to a slide view

- Click slide tab when in normal view

Slide outline view

It is also an editing and formatting window. Here slides and topics can be promoted or demoted, expanded or collapsed moved up or down etc.

Steps to outline view

- Click outline tab when in normal view

Slide sorter view

It is view/ window whereby all the slides can be viewed at once, some aspect can also be applied from this window such as sorting and transition.

Steps to slide sorter view

- Click view menu
- Click slide sorter
- Choose appropriate zoom percentage
- To sort drag to position the slide appropriately

Notes page view

This view allows editing and formatting of additional notes below each slide in a presentation

Steps to notes page view

- Click view menu
- Click notes page

Slide show view

It is a view that runs the entire presentation automatically (non-stop) or manually (on mouse click) this is a final stage whereby the first to the last slide are viewed it is ideal view especially for a presenter to an audience or mere slide show. It will be more effective if slide transition, custom animation and sound effect are set to accompany the show.

Steps to slide show view (automatically)

Method 1

- Open the presentation
- Click view menu
- Click slide show

Method 2

- Open the presentation
- Click slide show menu
- Click view show

Method 3

- Open the presentation
- Press F5 key

Transition

Slide transitions are the animation-like effects that occur in Slide Show view when you move from one slide to the next during an on-screen presentation. You can control the speed of each slide transition effect, and you can also add sound.

Steps to add a transition

On the left side of the slide window, in the pane that contains the Outline and Slides tabs, click the **Slides** tab.

Select the slide thumbnails of the slides that you want to apply slide transitions to.

On the **Animations** tab, in the **Transition To This Slide** group, click a slide transition effect.

To see more transition effects, in the Quick Styles list, click the **More** button ⬇.

To set the slide transition speed between the current slide and the next slide, in the **Transition To This Slide** group, click the arrow next to **Transition Speed**, and then select the speed that you want.

In the **Transition To This Slide** group, click **Apply to All**.

Add different slide transitions to the slides in your presentation

On the left side of the slide window, in the pane that contains the Outline and Slides tabs, click the **Slides** tab, and then click a slide thumbnail.

On the **Animations** tab, in the **Transition To This Slide** group, click the slide transition effect that you want for that slide.

To see more transition effects in the Quick Styles list, click the **More** button ⬇.

To set the slide transition speed between the current slide and the next slide, in the **Transition To This Slide** group, click the arrow next to **Transition Speed**, and then select the speed that you want.

To add a different slide transition to another slide in your presentation, repeat steps 2 through 4.

Slide animations

To animate is to add special visual or sound effect to text or an object for instance you can have your text bullet points fly in from the left, one word at time, or hear the sound of applause when a picture is uncovered. Animation puts emphasis on important/ key points and controls the flow of information or message. It also adds interest to the presentation during a slide show.

Animation scheme

Animation scheme adds preset visual effects to text on slides. Animation schemes can be applied to all slides, all titles, and some items on master slides. Animation range from subtle to modern and to exciting. Each scheme usually include effect for the slide title and an effect for applied to bullets or paragraph.

Steps to animation scheme

- Select slide and the place holder
- Click animation tab
- Select an effect
- Click apply to all slides
- Click desired sound effect

Custom animation

These are the aspects attached to text or graphics to determine how they will appear on the screen during the slide show. In custom animation a text or object may be given an effect such as the entrance then the emphasis the exit then the path motions.

Steps to set custom animations

- Right click the final running slide
- Point screen
- Click black/ white screen
- Right click the black/ white screen
- Point pointer options
- Click ballpoint pen/ felt tip pen/ highlighter
- Scribble the notes on the screen

To clear the screen for fresh notes

- Right click the screen
- Point pointer option
- Click eraser/ erase all ink color
- To change the pen color
- Right click a running slide
- Point pointer option
- Click ballpoint prn/ felt tip pen/ highlighter
- Right click running slide again
- Point pointer option
- Point ink color
- Click desired color
- Press and drag to scribble

Master template/ slide master

The slide that stores information about the design template applied, including the font attributes, placeholder sizes and positions, background designs, and color scheme.

It is a user designed slide with details meant not to change every time a new slide is added for the entire presentation. The details may be a company logo, political slogan, school motto, date and time etc.

Steps to create master template

- Activate a new presentation
- Click view menu
- Point master
- Click slide master
- Edit and format the sketch slide
- Click file menu
- Click save as
- Type the master's filename
- Choose design template in the same type
- Click save button
- To change the design template
- Open the presentation

- Click view

- Click slide sorter

- Click format

- Click slide design

- Click design template

- Select the desired template

- Click drop down list to the right of the template

- Click apply to all slides

Packing a presentation

A presentation can be packed into a folder or an external storage device such as CD etc. for showing in another computer even if the computer does not have not have the MS power point program. Editing and formatting to a packed presentation is impossible since the source program is required to achieve this.

Steps to package a presentation to a CD

- Open the presentation

- Click office button

- Point publish

- Click package to CD

- Type the name of presentation

- Click add files to include more presentation

- Click copy to cd

- Click ok

- Click close

Steps to package a presentation to folder

- Open the presentation

- Click office button

- Point publish

- Click package to folder

- Type the name of presentation

- Click add files to include more presentation

- Click copy to cd

- Click ok

- Click close Click ok

- Click close

To run/ show a packed presentation

- Open the cd/ folder used in packing

- Open presentation CD

- Double click preview to open the presentation

INTERNET & E-MAIL

Internet is an interconnection of PCs throughout the world by use of ordinary telecommunication lines and modems or just satellite signals. Other names associated with internet;

- Information super highway
- Cyber space
- The net

INTRANET

It is network which is localized within an organization or a department using server to interconnect several computers.

EXTRANET

A network that would link computer across geographical regions is referred to as extranet.

Purpose of internet, extranet and intranet

The entire purpose of any interconnection is to access and share scarce information and resources conveniently irrespective of distance and location. All this is because the human beings want to save time and money yet enjoying the comfort of accessing volumes and volumes of information and resources.

COMMON TERMS USED IN INTERNET

a) **Webpage**

This is a single document/ page within the internet. It could be a text, picture, sound or a video. In the internet the user gets required webpage and number of hyperlinks to link to other related web page.

b) **Web site**

This is collection of related webpages, well organized and maintained by an organization, an academic institution or government agency. A individual can also create, organize and maintain his/ her own web site.

c) **Home page**

It is usually the first welcoming page that appears when you open the internet browser or a web site or even the first webpage of the email account. The home page is customized or set to meet the user's preferences.

d) **History**

This comprises tracks of all web pages that has been viewed previously on connected computer, it enable the user go to specific information instead browsing afresh.

e) Hyper link

This is a special address that connects two or more related web pages in a website. It is usually an underlined text, a button or a picture which when clicked opens the link page.

f) Uniform resource locator (URL)

It is unique address assigned to each webpage or website within the internet for identification, it could be easy to display any webpage if you knew its URL, but in most cases the URLs are complex and it is hard to master them off head e.g. www.google.co.ke

Parts of a URL

a) Protocol name

Protocol is language that enables a computer to speak to one another if they are interconnected

It involves a set of rules and standard that enable computer to exchange information smoothly.

b) Site location

It indicates where the site is in the internet or elsewhere.

c) Name of organization

It indicates the company or organization whose server controls the website.

d) Extension/ suffix

This indicates the nature of organization or company: Whether commercial, academic, educational, military, and governmental etc.

e) Favorites

A collection of selected files by the browser if file are found to be necessary for future retrieve are kept in the favorite's folder. It's a provision within the internet where the user may create folders to store often accessed files.

f) Address bar

A space where the URL can be typed before a search is initiated

g) Search button

It is clicked after the keyword have been typed to begin the search to initiate the search.

h) Go button

The go button is clicked after a URL has been typed to open the website. The enter key can be pressed to serve the purpose.

i) Stop button

Clicked to end a search that may have taken more than enough time or wrong request has been made.

j) Refresh button

Clicked to re-open a webpage incase the page is not being displayed and the server or the connection may have some problem.

k) Home button

Take the user to the home page or mail home (inbox page) of own account.

BROWSING/ SURFING

Browsing is accessing and collecting different information bit by bit from the internet.

Surfing is finding out what new or what is out there in the net. Look at it in this perspective on one hand a student of ICT or IT may learn in class about the architecture of the CPU and later goes to the internet for further notes.

Steps to browse/ surf the net

- Turn on a connected computer
- Open the web browser as any other program
- Type a keyword in the search box
- Press enter key
- Use the link appropriate to relate information
- Print the information if necessary
- Keep the selected webpages in favorite's folder
- Download the important information to the computer, diskette, and flash disk etc. as take away information.

Logical operators

They are words attached to keywords in the search box to narrow a search. These are AND, OR, NOT among others, let's assume we are searching for political using logical operators it would be as follows

POLITICS AND AFRICA

This will search for politics only in Africa

POLITICS OR AFRICA

This will search for anything politics and anything Africa

POLITICS NOT AFRICA

This will search for anything politics and nothing in Africa

Some common search engines

- Google
- Yahoo

Email stands for electronic mail. It is an address given to a individual or an organization after registering to be a member of the internet through some host. It facilitates communication among members of the internet.

Email account breakdown

a) ID (identity)

This is the name that identifies individual to the internet

Set up (@)

Indicate where the ID or the browser is hosted

b) Host

The organization that maintains the server to act as link between the internet and the members. It is ideal because it has a large storage capacity for electronic mails being exchanges. Most of the hosts are search engines.

A search engine is an organization with powerful software that can delve into the internet and retrieve the requested information. E.g. yahoo, Google, Hotmail etc.

c) Separator/ period

It puts distinctions between the host and the type of institution the host is.

d) Extension/ suffix

Indicates the nature of the host

Sign up

This is getting registered as a new member in the internet through some host. One can acquire as many email accounts as possible, but remember each email accounts must be activated often; otherwise it will be inactivated together with the mails.

Steps to sign up

- Open the web browser on a connected computer
- Identify and open host
- Click sign up link button
- Fill in the registration form and submit it

Sign in

This is identifying oneself to internet by typing in the identity and the password. It is actually opening one's email account.

Steps to sign in

- Open the web browser e.g. internet explorer
- Open the host
- Click sign in link wherever it may be
- Type the ID
- Type the password
- Click sign in button or press enter key

To check and read mail

Most of incoming mails are kept in the inbox folder.

Steps

- Click inbox folder or inbox link
- Click the subject of mail to read
- The user may delete, reply, forward, mark, save, move or spam a mail
- Click back to message or next or previous to read another mail

Folders in email account home

Email accounts home is the main webpage in someone's email address because the main purpose of this facility is to enhance exchange of mails. There are several folders in this webpage:

❖ **Inbox folder**

This contains most of the incoming mails. These mails according to the host are genuine or worth. The account holder may also move chosen mails into this folder.

❖ **Sent folder**

Automatically the host keeps copies of all composed and sent mails into this folder for some duration of time.

❖ **Draft folder**

In this folder the accounts holder keeps the copies of selected mails for reference or re-use.

❖ **Bulk folder**

It contains mails that have been suspected by the host as spam. Spam is any unsolicited mail that could contain virus, scary message, or even trivia, the account holder is advised not to open these mails to avoid any harm to the computer or even to self.

❖ **Trash folder**

All deleted mails are kept here, if completely these mails are not needed the holder may empty the folder.

❖ **My folders**

These are customized folders set apart for the account holder to create and move specific mails for organization. Therefore, there could be mails folders for family, friends or job.

Steps to compose a mail

- Click compose button
- Indicate recipient address
- Indicate CC and BCC if any
- Type the subject for the mail
- Edit and format the mail if necessary
- May attach a file
- May save draft copy
- Click send button

FILE ATTACHEMENT

These are details already created in their respective source programs or already existing within the internet and should accompany the email.

Importance of attachment

- Saves ordinary time for creating such document
- Variety selection of items from the internet
- Save air time and thus save money

Point to note before file attachment

- The file to attach to the mail should be composed before hand
- If the file to attach will come from the internet it should be browsed for before hand

Steps to attach file

- Click attach file button
- Click browse button to identify the file
- Select the location with the file
- Select the file to attach
- Click open
- Click attach file and wait for attachment

- Click attach more file
- Click back to message
- Click send button

INTERNET ETIQUETTE

Internet is designed and improved every day to save time and energy to the user. Etiquette is the manners by which the user will conduct himself when online, therefore it is important to observe some conduct that may hinder the purpose of internet.

Brief and precise to deliver messages

Prepare or browse for attachments before hand

Use short forms if possible e.g. its, coz

Avoid retrogression or repetition

Stick to the point when browsing or surfing

Sign out

This is ending the browsing session within the internet. It closes ones email account. It is important because it saves money and preserves secrecy.

Steps to sign out

Click sign out button wherever it may be or

close the web browser

BENEFITS OF INTERNET

❖ **Communication**

Email enable people around the world send, receive and reply an electronic mails. This is faster more convenient and even cheaper than the ordinary mails.

❖ **Information**

The internet provides information virtually on every topic; be it politics, science, religion etc. at reduced cost.

❖ **Programs**

Computer wizards can find and retrieve volumes and volumes of application programs including anti-virus which are designed, dispatched and downloaded from the internet either free or at cost.

❖ **Entertainment**

People can watch, matches, play games, listen to radio stations etc.

❖ **Discussion/ chat group**

This involves internet browsers with email accounts who might be strangers or even friends, they pick on a topic and then privately or publicly discuss it. The discussion may be serious.

❖ **E-commerce**

This is business over the internet or online. It enable ordering of goods and services over the internet and delivery don without the customer leaving the office desk or the home compound.

❖ **Advertisements**

Because of millions of internet browsers are hooked on the net, companies find it ideal to market their products to broader clientele.

❖ **E-teaching/ E-learning**

On one hand academic institutions have moved at higher gear to deliver education to student's online thus reducing congestion in their scarce physical facilities.

While on the other hand the students have embraced the move by enrolling more for travelling and accommodation costs have been slashed

❖ **E-banking**

With EFI (electronic fund transfer) and other electronic facilities financial institutions have made it easy for their customer to make transaction very conveniently

DISADVANTAGES OF INTERNET

❖ **Moral decay**

The ever booming pornography material online especially to children live them hanging on the verge of high cliff.

❖ **Fraud**

Financial institutions lose millions daily to hackers who break into their system codes and make away with huge sums of money.

❖ **Addiction**

Game players, chatters, movie watchers etc. waste crucial hours on computer at the expense of their daily chores.

❖ **Anti-social community**

Man- made machines make people not to communicate face to face. This has in itself the physical interaction among friends and family members, many being left loners.

FACILITIES REQUIRED TO CONNECT THE INTERNET

❖ **Personal computer (PC)**

The PC should have:

- ✓ High speed processor
- ✓ High capacity disk
- ✓ High quality monitor

❖ **Web browser**

This is software that enables access to the internet e.g. internet explorer

❖ **Modem**

A gadget or device that translates information from digital to analog and vice versa, it is two words; Modulator and demodulator. Modem speed should be high at least 56mps.

❖ **ISP (internet service provider)**

It is a commercial organization that provides connectivity to the internet to its clients. It maintains security to its clients and also provide support service.

Example of ISPs in Kenya

- Wananchi online
- Access Kenya
- Kenya data networks(KDN)
- Jamii telkom
- Swift Kenya
- Ken stream
- Form net

❖ **User name**

Registration name given to the ISP before connection and registration

❖ **Password**

Secret coding to ensure security to one's account.

❖ **Web server**

Computer or machine with certain software to enable answering of requests for documents from clients over the internet.

ADOBE PAGEMAKER

Adobe page maker is a desktop publishing package that highly incorporates text and graphics to create a publication. Publication is any file created in DTP, in collection, texts and graphics are referred to as objects because once created they can be manipulated as single units i.e. they can be moved, positioned, resize, imported, exported etc. Adobe page maker can be used to design items such as cards, newsletter, brochures, banners, menus etc.

Other related DTPs

- ✓ Adobe photo shop
- ✓ Adobe premier
- ✓ Corel draw
- ✓ Ventura
- ✓ Adobe illustrator
- ✓ Ms. Publisher
- ✓ Harvard graphic

LOAD/OPEN ADOBE PAGEMAKER

Method 1

- ✓ Click start
- ✓ Point all program
- ✓ Point adobe
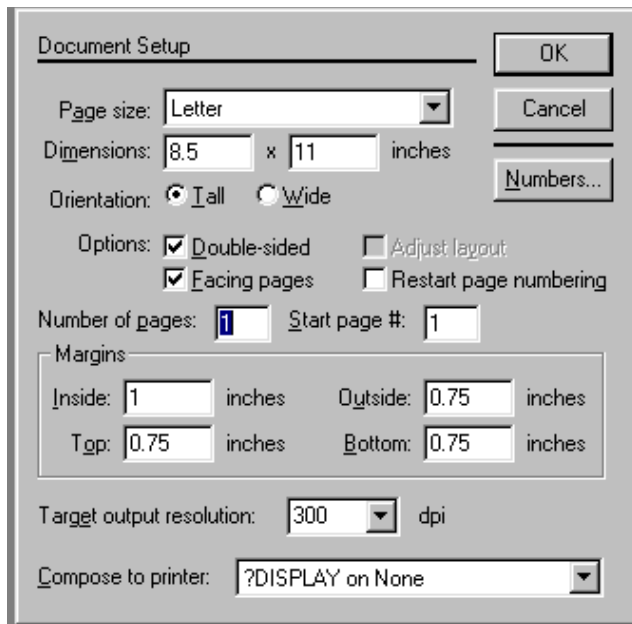- ✓ Point page maker 7.0
- ✓ Click adobe page maker

CREATE A NEW PUBLICATION

Method 1

- ✓ Click file menu
- ✓ Click new
- ✓ Set the document
- ✓ Click ok

Method 2

- ✓ Click new icon and adobe tool bar
- ✓ Set the document
- ✓ Click ok

Features applied in document setup

The page size e.g. A1, A2, A3 etc.

Orientation

Margins

Number of pages

Double or single side of the page etc.

CHANGE DOCUMENT SETUP

Here already the document for the publication has been set with appropriate features and designing

began, but the user wants to add or change some aspect.

Steps to change document set up

- ✓ Click file menu
- ✓ Click document setup
- ✓ Change appropriately
- ✓ Click ok
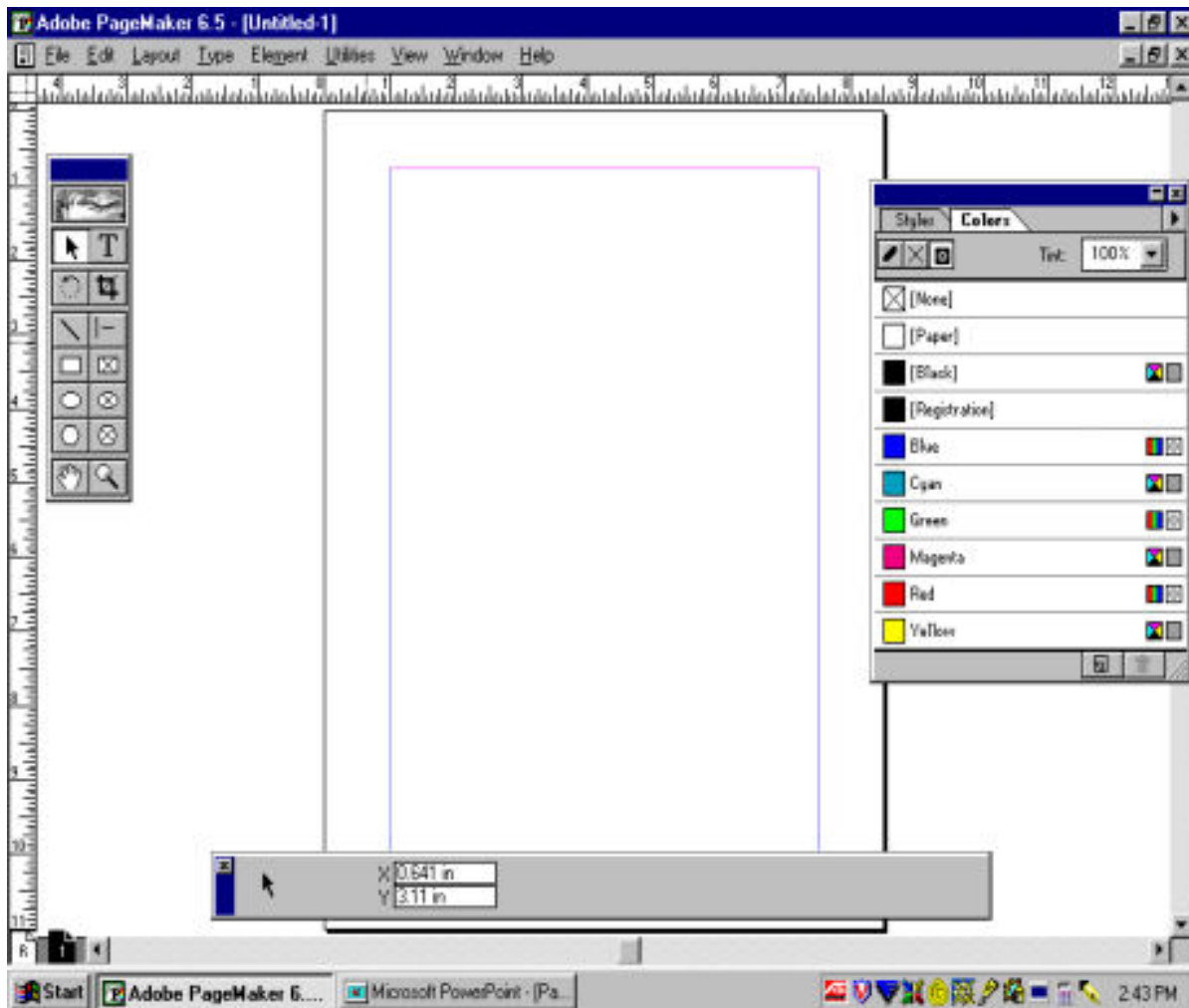
ADOBE PAGE MAKER TOOLS

To design in adobe PageMaker, it requires choice of different tools. The tools are got from the tool box which can be shown and also hidden.

- ✓ To show the tool box
- ✓ Click window menu
- ✓ Click show tool
- ✓ To hide the tool box
- ✓ Click window menu
- ✓ Click hide tool

Tools functions and application of the tools

select tool

- ✓ Select objects for particular aspects
- ✓ Reduces or increases objects for particular aspects

- ✓ Reduces or increases sizes of objects
- ✓ Moves and position object

Apply the select tool

- ✓ Click the selected tool on the tool box to select
- ✓ Point an object to and click to select it
- ✓ Point an object press and drag to resize it
- ✓ Point an object click and drag to move it

Text tool

- ✓ Allow the user to type direct into the page
- ✓ Allow user to create text blocks
- ✓ High lights the text for editing and formatting

Apply the text tool

- ✓ Type text direct
- ✓ Click the text tool on the tool box to select it
- ✓ Click on the page
- ✓ Type from the keyboard

Create a text box

- ✓ Click the text tool on the tool box selected
- ✓ Press and drag to draw imaginary frame

Highlight text

- ✓ Click the text tool on the tool box
- ✓ Press and drag over the text
- ✓ Select the tool at the tool box
- ✓ Click at the beginning of text
- ✓ Press shift key
- ✓ Click at the end of text

Rotation tool

- ✓ Rotates objects manually at different angles
- ✓ Apply the rotation tool
- ✓ Select the object to rotate
- ✓ Click the rotation tool on the tool box
- ✓ Press and drag to rotate

Cropping tool

Crops imported objects. Cropping is reducing object by removing or cutting unwanted parts.

Apply the cropping tool

- ✓ Select the object to crop
- ✓ Click the tool on the tool box to select
- ✓ Click on border/ resize handle and hold LMB
- ✓ Drag inwards to crop the object size
- ✓ Drag outwards to un-crop the object.

Line tool

Draw lines

Draw using the line tool

- ✓ Click the line tool on the tool box to select
- ✓ Press and drag on the page to draw
- ✓ Edit and format accordingly

Straight line tool

Draws perpendicular or horizontal lines

Draw using the straight line tool

- ✓ Click the straight line tool on the tool box
- ✓ Press and drag on the page draw
- ✓ Edit and format accordingly

Rectangle frame tool

Draws rectangles and squares of different sizes

Draw using rectangle frame tool

- ✓ Click the rectangle frame tool
- ✓ Press and drag on the page to draw
- ✓ Edit and format accordingly

Hatched rectangle frame tool

Draws hatched rectangular and square shapes of different sizes

Draw using hatched rectangle frame tool

- ✓ Click the hatched rectangle frame tool
- ✓ Press and drag on the page draw
- ✓ Edit and format accordingly

Draw a perfect square (plain or hatched)

- ✓ Select rectangle frame tool
- ✓ Press and hold down the shift key
- ✓ Press and drag to draw the
- ✓ Release the LMB before releasing the shift key

Make round corners to a rectangle or square

- ✓ Select the rectangle or the square
- ✓ Click element menu
- ✓ Click rounded corner
- ✓ Select a style
- ✓ Click ok

Ellipses frame tool

- ✓ Draws circular & oval shapes of different sizes
- ✓ Draw using the ellipses frame tool
- ✓ Click the ellipses frame tool
- ✓ Press and drag on the page to draw
- ✓ Edit and format accordingly

Hatched ellipses frame tool

- ✓ Draws hatched ovals & circles of different sizes
- ✓ Draw using hatched ellipse frame tool
- ✓ Click the H.E tool on the tool box to select
- ✓ Press and drag on the page to draw
- ✓ Edit and format accordingly.
- ✓ Draw a perfect circle (plain or hatched)
- ✓ Click the ellipses tool on the tool box
- ✓ Press and hold down shift key
- ✓ Press and drag to draw then
- ✓ Release the LMB before releasing shift key

Polygon frame tool

- ✓ Draws figures with between 3 and 100 sides.
- ✓ Also used to draw stars from 1% to 100%

Draw using the polygon tool

- ✓ Click the polygon tool on the tool box
- ✓ Press and drag on the page to draw
- ✓ Edit and format accordingly

Hatched polygon frame tool

- ✓ Draws hatched figures of any number of sides and even stars of at least three tips
- ✓ Draw using the polygon tool
- ✓ Click the polygon tool on the tool box
- ✓ Press and drag on the page to draw
- ✓ edit and format accordingly

Draw any sided figure using polygon tool

- ✓ Draw the polygon frame
- ✓ Select the drawn polygon
- ✓ Click element menu
- ✓ Click polygon setting
- ✓ Indicate the number of sides
- ✓ Click ok

Draw any sided star using polygon tool

- ✓ Draw the polygon frame
- ✓ Select the drawn polygon
- ✓ Click element menu
- ✓ Click polygon setting
- ✓ Indicate the no. of sides
- ✓ Indicate the star inset percentage
- ✓ Click ok

HATCHED FRAMES

Hatched frames the ones once drawn will allow the user enter text into them immediately. Hatched frame tools normally shown with two crossing cyan diagonals all enclosed figures have or even be made hatched.

Make a plain frame a hatched frame

- ✓ Select the plain frame on tool box
- ✓ Press and drag on the page to draw
- ✓ Select the drawn plain frame

- ✓ Click element menu
- ✓ Point frame
- ✓ Click change to frame

Hand/ move tool

- ✓ Moves both the page and the paste board to different position while designing. It is the same as scrolling the page but precisely.
- ✓ Apply the move tool
- ✓ Click the hand tool on the tool box to select
- ✓ Press and drag on the page appropriately

zoom tool

- ✓ Magnifies specific areas of the publication especially when dealing with tiny or huge font or publication
- ✓ Apply the zoom tool
- ✓ Click the zoom tool on the tool box to select
- ✓ Select the (ms word) file with the needed text
- ✓ Click open button
- ✓ Click on the page to pour the text
- ✓ Edit and format if need be
- ✓ Save work

ADD PAGES TO PUBLICATION

Method 1

- ✓ Select the page from where to add more
- ✓ Click file menu
- ✓ Click document set up
- ✓ Indicate the number of pages
- ✓ Click ok

Method 2

- ✓ Select the page from where to add more
- ✓ Click layout menu
- ✓ Click insert
- ✓ Indicate the number of pages
- ✓ Choose after or before current page
- ✓ Click insert button

Method 3

- ✓ Right click the page from where to add more at the page bar
- ✓ Click insert pages
- ✓ Choose after or before current page
- ✓ Indicate number of pages
- ✓ Click insert button

Method 4

- ✓ Select the page from where to add more
- ✓ Press ctrl + shift + Alt +g

MASTER PAGES

Master page is reference page where all other pages in a publication should take root if the details for all other pages are constant.

Steps to set master pages

- ✓ Get new publication/ document
- ✓ Click window menu
- ✓ Click show master pages template
- ✓ Click the drop down list to top- right corner of the master pages palette
- ✓ Click new master pages
- ✓ Type a name of the new master page
- ✓ Apply desire margins, columns etc.
- ✓ Click ok

Steps to apply a new master page

- ✓ Select the master page in the palette
- ✓ Click the drop-down list at top right
- ✓ Corner of the master page palette
- ✓ Click apply
- ✓ Choose the name of the master page
- ✓ Indicate the page range
- ✓ Click apply

TRANSFORMATIONS

These are editing aspects applied on the objects in page maker. They are found in the control palette, they are three:

- ✓ Rotation
- ✓ Skewing
- ✓ Reflection

Rotation

Rotation tilts an object at an angle through some degree on fixed point.

Steps to rotation

- ✓ Select the object to rotate
- ✓ Type the degrees of rotation in control palette
- ✓ Press enter key

Skewing

This is stretching an object through a particular angle on a fixed point.

Steps to skewing

- ✓ Select the object to skew
- ✓ Type degrees of skewing at the control palette
- ✓ Press enter key

Reflection

It is creating an image of an original object by moving it along the x-axis or y-axis

Steps to reflection

- ✓ Select the object to reflect/ move
- ✓ Type the measurements of reflection at the control palette
- ✓ Press enter key

DELETING PAGES

Method 1

- ✓ Select the page from where to delete
- ✓ Click file menu
- ✓ Click document setup
- ✓ Indicate the number of pages
- ✓ Click ok

Method 2

- ✓ Select the page from where to add more
- ✓ Click layout menu
- ✓ Click remove pages
- ✓ Indicate the range of pages to delete
- ✓ Click ok

Method 3

- ✓ Select the page from where to delete
- ✓ Right click the status bar
- ✓ Click remove pages
- ✓ Indicate the range of pages to delete
- ✓ Click ok

SET COLUMNS ON A PAGE

Columns are vertical subdivisions of text, text presented in columns breaks the monotony of the continuous paragraphs to the reader. In page maker columns can be set automatically and thereafter adjusted manually.

Steps to set columns automatically.

- ✓ Open the page
- ✓ Click layout menu
- ✓ Click column guides
- ✓ Indicate the number of columns needed
- ✓ Indicate width between the columns
- ✓ Click ok

Steps to adjust columns manually

- ✓ Insert the columns using the above method
- ✓ Click a column line (with select tool)
- ✓ Press and drag to adjust appropriately

TO PAGE NUMBER A PUBLICATION

This is done to master page by adding a page number marker that will keep on tacking the page order in a publication and avoid incorrect numbering to each page.

Steps to insert page numbers in a publication

- ✓ Click the master icon
- ✓ Select text tool

- ✓ Click where to position the number
- ✓ Press ctrl + alt + p

FORMAT A FRAME IN PAGEMAKER

The term frame has already been defined. Format a frame refers to enhancing both the fill and stroke with decorative or appealing aspects. The fill may be enhanced with color pattern etc. the stroke may be enhanced with color, style, thickness etc.

Steps to format a frame

- ✓ Select the frame to format
- ✓ Click element menu
- ✓ Click fill and stroke
- ✓ Apply aspects for both fill and stroke
- ✓ Click ok

To apply pattern to a frame

- ✓ Select the frame to format
- ✓ Click element menu
- ✓ Point fill
- ✓ Click desired pattern

FORMAT TEXT IN PAGE MAKER

Formatting text is also enhancing text for better presentation, text can be given aspects such as color, font, size, type style, leading case, alignment, paragraph, drop cap, bullets etc.

It should be remembered these aspects will not follow the conventional menus as experienced in MS office, otherwise though differing the end result of formatting any text is the same.

Steps to format text with font

- ✓ Highlight the text
- ✓ Click type menu
- ✓ Point font
- ✓ Click desired font
- ✓ Steps to format text with size
- ✓ Highlight the text
- ✓ Click type menu
- ✓ Point size
- ✓ Click desired size

Steps to format text with alignment

- ✓ Highlight the text
- ✓ Click type menu
- ✓ Point alignment
- ✓ Click desired alignment

ADOBE TABLE

Adobe table is a single or separate utility on its own but always comes together with adobe PageMaker. Though differently approached, most of its characteristics resemble those of a table as seen earlier in MS word table and MS excel work sheet. Adobe table may be inserted as an object or copied and pasted.

Steps to insert adobe table

- ✓ Open page maker and get the page
- ✓ Click edit menu
- ✓ Click insert menu
- ✓ Click adobe table
- ✓ Indicate no. of rows and columns the table height and width, gutters etc.
- ✓ Click ok
- ✓ Edit and format the table
- ✓ Close adobe table so as to import

Steps to open adobe table

- ✓ Click start button
- ✓ Point all programs
- ✓ Point adobe
- ✓ Click adobe table
- ✓ Indicate no of rows and columns the table height and width etc.
- ✓ Edit and format the table
- ✓ Save and close the table
- ✓ Copy and paste to PageMaker

Steps to format cells in adobe table

- ✓ Select the table
- ✓ Click format menu
- ✓ Click format cells
- ✓ Select appropriate aspects

- ✓ Click apply and ok

Steps to format text in adobe table

- ✓ Select the text
- ✓ Click format menu
- ✓ Click format text
- ✓ Apply appropriate aspects
- ✓ Click apply and ok

PAGEMAKER TEMPLATES

Templates are already designed formats for commonly or often used publication, for instance in adobe page maker we encounter ready publication such as cards, newsletters, banners etc. Though templates will help the user create a publication fast without straining they hinder innovation and creativity.

Steps to adobe PageMaker templates

- ✓ Open adobe page maker
- ✓ Click window menu
- ✓ Point plug in palettes
- ✓ Click show template palette
- ✓ Select a category of templates
- ✓ Click one of the templates
- ✓ Click create publication
- ✓ Select font family
- ✓ Click ok
- ✓ Edit and format appropriately
- ✓ Save the template.

PICTORIALS OF COMPUTER HARDWARE'S

LCD MONITORS

LAPTOPS

COMPLETE SYSTEM

KEYBOARDS & MOUSE

SPEAKER SYSTEMS

PC HEAD SETS

WIRELESS ROUTERS

GRAPHIC AND SOUND CARDS

WEB CAMERAS

UPS & SURGE PROTECTORS

EXTERNAL & INTERNAL HARD DRIVES

MOTHERBOARD & PROCESSORS

MEMORIES

DVD/CD –RW

COMPUTER KEYBOARD SHORTCUTS

Ctrl combination shortcut keys

Key	Description
Ctrl+PgDn	Switches between worksheet tabs, from left-to-right.
Ctrl+PgUp	Switches between worksheet tabs, from right-to-left.
Ctrl+Shift+&	Applies the outline border to the selected cells.
Ctrl+Shift_	Removes the outline border from the selected cells.
Ctrl+Shift+~	Applies the General number format.
Ctrl+Shift+$	Applies the Currency format with two decimal places (negative numbers in parentheses).
Ctrl+Shift+%	Applies the Percentage format with no decimal places.
Ctrl+Shift+^	Applies the Scientific number format with two decimal places.
Ctrl+Shift+#	Applies the Date format with the day, month, and year.
Ctrl+Shift+@	Applies the Time format with the hour and minute, and AM or PM.
Ctrl+Shift+!	Applies the Number format with two decimal places, thousands separator, and minus sign (-) for negative values.
Ctrl+Shift+*	Selects the current region around the active cell (the data area enclosed by blank rows and blank columns). In a PivotTable, it selects the entire PivotTable report.
Ctrl+Shift+:	Enters the current time.
Ctrl+Shift+"	Copies the value from the cell above the active cell into the cell or the Formula Bar.
Ctrl+Shift+Plus (+)	Displays the **Insert** dialog box to insert blank cells.
Ctrl+Minus (-)	Displays the **Delete** dialog box to delete the selected cells.
Ctrl+;	Enters the current date.
Ctrl+`	Alternates between displaying cell values and displaying formulas in the worksheet.
Ctrl+'	Copies a formula from the cell above the active cell into the cell or the Formula Bar.
Ctrl+1	Displays the **Format Cells** dialog box.

Ctrl+2	Applies or removes bold formatting.
Ctrl+3	Applies or removes italic formatting.
Ctrl+4	Applies or removes underlining.
Ctrl+5	Applies or removes strikethrough.
Ctrl+6	Alternates between hiding and displaying objects.
Ctrl+8	Displays or hides the outline symbols.
Ctrl+9	Hides the selected rows.
Ctrl+0	Hides the selected columns.
Ctrl+A	Selects the entire worksheet. If the worksheet contains data, Ctrl+A selects the current region. Pressing Ctrl+A a second time selects the entire worksheet. When the insertion point is to the right of a function name in a formula, displays the **Function Arguments** dialog box. Ctrl+Shift+A inserts the argument names and parentheses when the insertion point is to the right of a function name in a formula.
Ctrl+B	Applies or removes bold formatting.
Ctrl+C	Copies the selected cells.
Ctrl+D	Uses the **Fill Down** command to copy the contents and format of the topmost cell of a selected range into the cells below.
Ctrl+E	Adds more values to the active column by using data surrounding that column.
Ctrl+F	Displays the **Find and Replace** dialog box, with the **Find** tab selected. Shift+F5 also displays this tab, while Shift+F4 repeats the last **Find** action. Ctrl+Shift+F opens the **Format Cells** dialog box with the **Font** tab selected.
Ctrl+G	Displays the **Go To** dialog box. F5 also displays this dialog box.
Ctrl+H	Displays the **Find and Replace** dialog box, with the **Replace** tab selected.
Ctrl+I	Applies or removes italic formatting.
Ctrl+K	Displays the **Insert Hyperlink** dialog box for new hyperlinks or the **Edit Hyperlink** dialog box for selected existing hyperlinks.
Ctrl+L	Displays the **Create Table** dialog box.
Ctrl+N	Creates a new, blank workbook.

Ctrl+O	Displays the **Open** dialog box to open or find a file.
	Ctrl+Shift+O selects all cells that contain comments.
Ctrl+P	Displays the **Print** tab in Microsoft Office Backstage view.
	Ctrl+Shift+P opens the **Format Cells** dialog box with the **Font** tab selected.
Ctrl+Q	Displays the **Quick Analysis** options for your data when you have cells that contain that data selected.
Ctrl+R	Uses the **Fill Right** command to copy the contents and format of the leftmost cell of a selected range into the cells to the right.
Ctrl+S	Saves the active file with its current file name, location, and file format.
Ctrl+T	Displays the **Create Table** dialog box.
Ctrl+U	Applies or removes underlining.
	Ctrl+Shift+U switches between expanding and collapsing of the formula bar.
Ctrl+V	Inserts the contents of the Clipboard at the insertion point and replaces any selection. Available only after you have cut or copied an object, text, or cell contents.
	Ctrl+Alt+V displays the **Paste Special** dialog box. Available only after you have cut or copied an object, text, or cell contents on a worksheet or in another program.
Ctrl+W	Closes the selected workbook window.
Ctrl+X	Cuts the selected cells.
Ctrl+Y	Repeats the last command or action, if possible.
Ctrl+Z	Uses the **Undo** command to reverse the last command or to delete the last entry that you typed.

Tip: The Ctrl combinations Ctrl+J and Ctrl+M are currently unassigned shortcuts.

FUNCTION KEYS

Key	Description
F1	Displays the **Excel Help** task pane. Ctrl+F1 displays or hides the ribbon. Alt+F1 creates an embedded chart of the data in the current range. Alt+Shift+F1 inserts a new worksheet.
F2	Edits the active cell and positions the insertion point at the end of the cell contents. It also moves the insertion point into the Formula Bar when editing in a cell is turned off. Shift+F2 adds or edits a cell comment. Ctrl+F2 displays the print preview area on the **Print** tab in the Backstage view.
F3	Displays the **Paste Name** dialog box. Available only if names have been defined in the workbook (**Formulas** tab, **Defined Names** group, **Define Name**). Shift+F3 displays the **Insert Function** dialog box.
F4	Repeats the last command or action, if possible. When a cell reference or range is selected in a formula, F4 cycles through all the various combinations of absolute and relative references. Ctrl+F4 closes the selected workbook window. Alt+F4 closes Excel.
F5	Displays the **Go To** dialog box. Ctrl+F5 restores the window size of the selected workbook window.
F6	Switches between the worksheet, ribbon, task pane, and Zoom controls. In a worksheet that has been split (**View** menu, **Manage This Window**, **Freeze Panes**, **Split Window** command), F6 includes the split panes when switching between panes and the ribbon area. Shift+F6 switches between the worksheet, Zoom controls, task pane, and ribbon. Ctrl+F6 switches to the next workbook window when more than one workbook window is open.
F7	Displays the **Spelling** dialog box to check spelling in the active worksheet or selected range. Ctrl+F7 performs the **Move** command on the workbook window when it is not maximized. Use the arrow keys to move the window, and when finished press Enter, or Esc to cancel.

F8	Turns extend mode on or off. In extend mode, **Extended Selection** appears in the status line, and the arrow keys extend the selection. Shift+F8 enables you to add a nonadjacent cell or range to a selection of cells by using the arrow keys. Ctrl+F8 performs the **Size** command (on the **Control** menu for the workbook window) when a workbook is not maximized. Alt+F8 displays the **Macro** dialog box to create, run, edit, or delete a macro.
F9	Calculates all worksheets in all open workbooks. Shift+F9 calculates the active worksheet. Ctrl+Alt+F9 calculates all worksheets in all open workbooks, regardless of whether they have changed since the last calculation. Ctrl+Alt+Shift+F9 rechecks dependent formulas, and then calculates all cells in all open workbooks, including cells not marked as needing to be calculated. Ctrl+F9 minimizes a workbook window to an icon.
F10	Turns key tips on or off. (Pressing Alt does the same thing.) Shift+F10 displays the shortcut menu for a selected item. Alt+Shift+F10 displays the menu or message for an Error Checking button. Ctrl+F10 maximizes or restores the selected workbook window.
F11	Creates a chart of the data in the current range in a separate Chart sheet. Shift+F11 inserts a new worksheet. Alt+F11 opens the Microsoft Visual Basic For Applications Editor, in which you can create a macro by using Visual Basic for Applications (VBA).
F12	Displays the **Save As** dialog box.

Other useful shortcut keys

Key	Description
Alt	Displays the Key Tips (new shortcuts) on the ribbon. For example, Alt, W, P switches the worksheet to Page Layout view. Alt, W, L switches the worksheet to Normal view. Alt, W, I switches the worksheet to Page Break Preview view.
Arrow Keys	Move one cell up, down, left, or right in a worksheet. Ctrl+Arrow Key moves to the edge of the current data region in a worksheet.

	Shift+Arrow Key extends the selection of cells by one cell. Ctrl+Shift+Arrow Key extends the selection of cells to the last nonblank cell in the same column or row as the active cell, or if the next cell is blank, extends the selection to the next nonblank cell. Left Arrow or Right Arrow selects the tab to the left or right when the ribbon is selected. When a submenu is open or selected, these arrow keys switch between the main menu and the submenu. When a ribbon tab is selected, these keys navigate the tab buttons. Down Arrow or Up Arrow selects the next or previous command when a menu or submenu is open. When a ribbon tab is selected, these keys navigate up or down the tab group. In a dialog box, arrow keys move between options in an open drop-down list, or between options in a group of options. Down Arrow or Alt+Down Arrow opens a selected drop-down list.
Backspace	Deletes one character to the left in the Formula Bar. Also clears the content of the active cell. In cell editing mode, it deletes the character to the left of the insertion point.
Delete	Removes the cell contents (data and formulas) from selected cells without affecting cell formats or comments. In cell editing mode, it deletes the character to the right of the insertion point.
End	End turns End mode on or off. In End mode, you can press an arrow key to move to the next nonblank cell in the same column or row as the active cell. End mode turns off automatically after pressing the arrow key. Make sure to press End again before pressing the next arrow key. End mode is shown in the status bar when it is on. If the cells are blank, pressing End followed by an arrow key moves to the last cell in the row or column. End also selects the last command on the menu when a menu or submenu is visible. Ctrl+End moves to the last cell on a worksheet, to the lowest used row of the rightmost used column. If the cursor is in the formula bar, Ctrl+End moves the cursor to the end of the text.

	Ctrl+Shift+End extends the selection of cells to the last used cell on the worksheet (lower-right corner). If the cursor is in the formula bar, Ctrl+Shift+End selects all text in the formula bar from the cursor position to the end—this does not affect the height of the formula bar.
Enter	Completes a cell entry from the cell or the Formula Bar, and selects the cell below (by default). In a data form, it moves to the first field in the next record. Opens a selected menu (press F10 to activate the menu bar) or performs the action for a selected command. In a dialog box, it performs the action for the default command button in the dialog box (the button with the bold outline, often the **OK** button). Alt+Enter starts a new line in the same cell. Ctrl+Enter fills the selected cell range with the current entry. Shift+Enter completes a cell entry and selects the cell above.
Esc	Cancels an entry in the cell or Formula Bar. Closes an open menu or submenu, dialog box, or message window. It also closes full screen mode when this mode has been applied, and returns to normal screen mode to display the ribbon and status bar again.
Home	Moves to the beginning of a row in a worksheet. Moves to the cell in the upper-left corner of the window when Scroll Lock is turned on. Selects the first command on the menu when a menu or submenu is visible. Ctrl+Home moves to the beginning of a worksheet. Ctrl+Shift+Home extends the selection of cells to the beginning of the worksheet.
Page Down	Moves one screen down in a worksheet. Alt+Page Down moves one screen to the right in a worksheet. Ctrl+Page Down moves to the next sheet in a workbook. Ctrl+Shift+Page Down selects the current and next sheet in a workbook.
Page Up	Moves one screen up in a worksheet. Alt+Page Up moves one screen to the left in a worksheet. Ctrl+Page Up moves to the previous sheet in a workbook. Ctrl+Shift+Page Up selects the current and previous sheet in a workbook.

Spacebar	In a dialog box, performs the action for the selected button, or selects or clears a check box. Ctrl+Spacebar selects an entire column in a worksheet. Shift+Spacebar selects an entire row in a worksheet. Ctrl+Shift+Spacebar selects the entire worksheet. If the worksheet contains data, Ctrl+Shift+Spacebar selects the current region. Pressing Ctrl+Shift+Spacebar a second time selects the current region and its summary rows. Pressing Ctrl+Shift+Spacebar a third time selects the entire worksheet. When an object is selected, Ctrl+Shift+Spacebar selects all objects on a worksheet. Alt+Spacebar displays the **Control** menu for the Excel window.
Tab	Moves one cell to the right in a worksheet. Moves between unlocked cells in a protected worksheet. Moves to the next option or option group in a dialog box. Shift+Tab moves to the previous cell in a worksheet or the previous option in a dialog box. Ctrl+Tab switches to the next tab in dialog box. Ctrl+Shift+Tab switches to the previous tab in a dialog box.

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This Certificate is issued without any alterations whatsoever