INTRODUCTION TO MICRO-COMPUTERS AND WINDOWS

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DEFINITION OF A COMPUTER

A computer is an electronic device that accepts data, processes it and gives the results to the user.

What is data?

Data is raw fact and figures

What is processing?

Processing is the act of converting data into information

APPLICATIONS OF COMPUTERS

Hospitals
- Connected to machines that can detect the status of the patient e.g. dialysis machines.
- Keep records of patients
- Programs used to diagnose diseases

Education
- Keep records of students in schools
- Assist in the learning process
- Templates that can be used to enter students marks
- Distance learning instead of correspondence by post

Banks
- ATMs (automated teller machine) can be used to withdraw and even deposit money at various points instead of using the banking hall.

Homes
- Security purposes-gadgets connected to computers can be used to detect what goes on in the environs.
- Household appliances-Microchips connected to devices like microwaves, washing machines etc
- Teleworking
- Leisure and e-commerce-games, online shopping etc

Industries
- Computer aided manufacture e.g. breweries, milk industries. car-assembling industries
- Computer aided designs (CAD)-used by architects to make designs of buildings, bridges etc
- Telecommunications industry relies on computers to switch incoming and outgoing calls
- Airline industry for reservation purposes and scene monitoring

Government
- Keep records e.g. NHIF, NSSF, population census, car registration
- Help in criminal investigations-computers keep databases on fingerprints that are automatically analyzed by computers

TYPES OF COMPUTERS

Computers can be classified into various categories depending on their sizes, speed, cost and functionality.

(a) Supercomputers
Big in size and used for scientific research - weather forecasting.
Very expensive
Very fast

(b) Mainframes
Powerful computers that can support over 100 users
Used by large companies and organizations for data storage
They are quite fast
Less expensive than supercomputers

(c) Minicomputers
Have a powerful processor and high quality monitor.
Can support about 50 users
Less expensive and slower than the mainframes
Used in smaller organizations like banks

(d) Micro computers
They are also called personal computers
Can only accommodate one user
Small in size and have lower cost
Includes palmtops, notebook, desktop and laptop computers.

The computer system is made up of three components:
- Hardware
- Software
- Live ware

COMPUTER HARDWARE
All physical components of the computer are referred to as hardware. Hardware is categorized into:
- Input devices
- Output devices
- Storage devices
- Central processing unit

(a) Input devices
These devices accept data and convert it into a form that the computer can understand.eg keyboard,mouse,scanners, and touchpad.

(b) Output devices
These are devices that the computer uses to display the results to the user e.g monitor (VDU), speakers and printers.

(c) Storage devices

These are the devices that store information that the computer has processed.
Floppy disks, optical disks (CDs, DVDs) and Hard disk (fixed disk)

(d) Central processing unit

This is the brain of the computer. It processes the information that is input into the computer.

COMPUTER SOFTWARE

These are a set of instructions that assist the computer to carry out its assigned tasks.
These instructions are referred to as programs. Software is divided into two :
- System software
- Application software

(a) System software

These are a series of instructions that control the computer hardware and act as an interface between the computer and the user. The manufacturer of the computer usually supplies it.
System software includes operating systems like windows 95,98,2000,XP, DOS and Me

(b) Application software

This is software created for a particular task. It handles the end user's needs. Software can be categorized as follows:

- Word processors

These are programs that mainly manipulate textual data.
They can be used to easily create documents such as memos, circulars, reports and letterheads. They include programs like Microsoft word, WordPerfect, and WordPad.

- Spreadsheets

They manipulate numerical data. Commonly used for analysis and graphical representation of information. They can be used to produce charts, create report forms and to easily perform all types of calculations. Examples of these applications include excel and lotus.

- Databases

They are used for processing raw data and analyzing it in order to come up with recommendations. with it you can easily work with large volumes of data e.g. keep the records of all the students, keep records of the books in the library and easily track those that are lent out etc. Examples of these programs are ms access and dbase.
- Presentation software

Used to create presentations that can be used to pass information. it can also be used for advertisement purposes. e. g PowerPoint

- Web browsers

Used to get information from the Internet e g Internet explorer

- Publishers

Used to design a wide range of publications e. g to produce a school magazine, brochures, newsletters etc. examples of these programs are ms publisher and PageMaker

- Tailor made software

Specifically designed for particular places and for special purpose. An example is a time table program that can help to schedule classes and computer assisted learning programs.

SWITCHING ON AND OFF THE COMPUTER
To start a computer that was off, follow these steps:
- Switch on the power at the mains
- Switch on the power on the CPU

The computer then starts getting itself ready for use and this is referred to as the booting process.
- Switch on the monitor by pressing the power knob.

After the booting process the computer rests at the desktop and is now ready to be used by the user.
While in the booting process the computer is checking several things like the memory, and hardware connections and if anything is amiss it informs the user through a beep or a message on the screen. It never gets to the desktop until the mistake is rectified.

To **switch off** the computer, close the program you are working with first.
- Click on the start button
- Click on shut down
- On the dialog box click shut down then ok
- Switch off the power on the monitor
- Switch off the CPU

WINDOWS
This is an operating system that has a graphic user interface i.e. its easy to use because it displays information in graphical form. Upon switching on the computer, the operating system starts running.

DESKTOP
This is the working space of the computer.

Features of the desktop
- Wallpaper -this is the background of the computer
- Icons-small graphics that represent commands
- Task bar-displays the running applications, the start button and the time

USING THE MOUSE
The mouse has two partitions:
- Left mouse button
- Right mouse button

The left button is commonly used to select menus

The right button is used to create shortcuts

To use either of the buttons you click (lightly tap and release the mouse button)

Mouse techniques
Right clicking-when you tap the right mouse button.

Double clicking- to click two times consecutively on the right mouse button

Dragging-pressing the left mouse button over a target then releasing

NB-when you overturn the mouse a "ball" is displayed; it helps to move the cursor on the screen.

Changing the mouse configuration
Click on start button

Point at settings then select control panel

Double click the mouse icon in the control panel

Under the buttons tab you can adjust the button if left handed and can change the double click speed

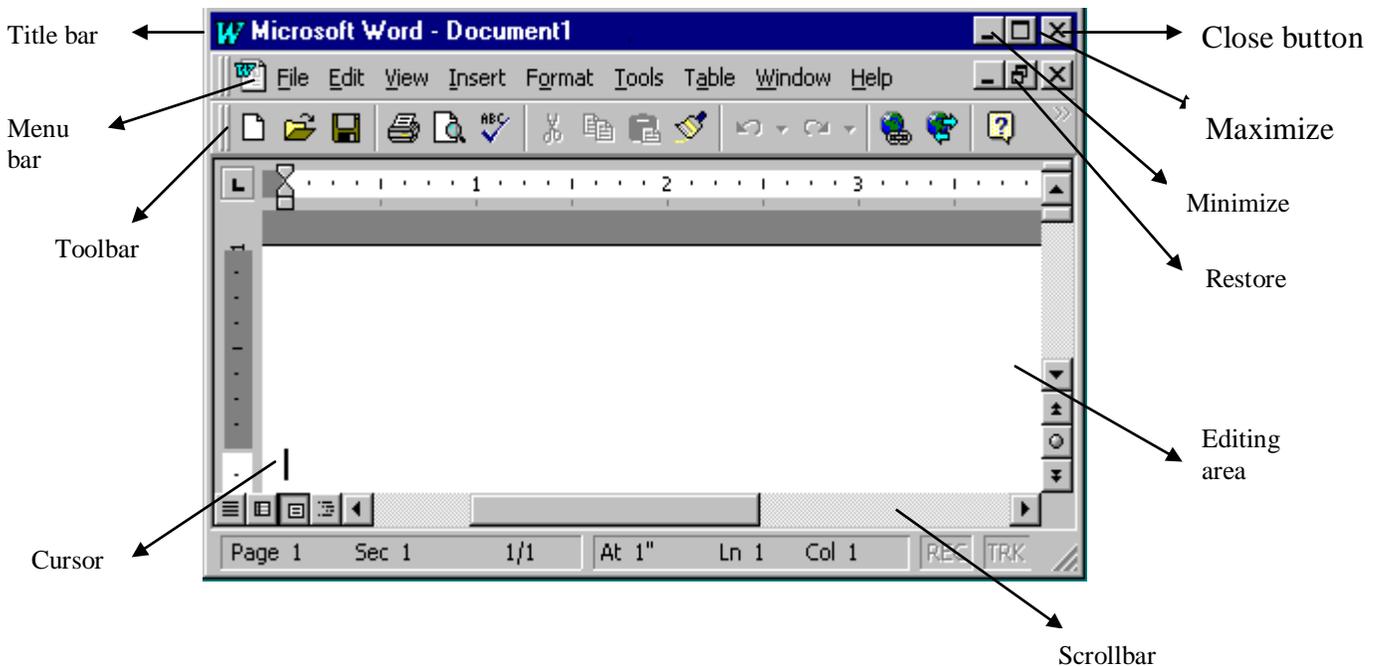Under the pointers tab you can modify the shape of the pointer

Click ok

OPENING A PROGRAM
- Click on the start button
- Point at programs
- On the submenu click the program you want to load

A TYPICAL WINDOW
This is an area on the screen that Windows sets aside for a specific task.

Title bar ← **W Microsoft Word - Document1**

Menu bar

Toolbar

Cursor

Close button

Maximize

Minimize

Restore

Editing area

Scrollbar

Page 1   Sec 1   1/1   At 1"   Ln 1   Col 1   REC TRK

Close button-closes a window
Maximize button-makes the window fills the screen
Minimize button-reduces window to an icon on the taskbar
Restore button-takes the window back to the size it was before it was maximized
Scrollbar-helps one to navigate through the various parts of the window so as view all contents
Status bar-shows the status of the page
Cursor-whatever is typed appears where the cursor is.
Editing screen-the are used for typing
Toolbar-displays shortcut commands inform of pictures
Menu bar-displays commands
Title bar-displays the name of the running application.

WORKING WITH WINDOWS

Moving a window
* Click on the title bar and drag to the new location
* Release the pointer

Sizing a window
* Place the mouse pointer on any of the window borders
* The pointer changes to double headed i.e.
    $\longleftrightarrow$
* Drag the border to resize.

CUSTOMIZE THE WINDOWS ENVIRONMENT

Changing the background
* Right click a blank area of the desktop away from the taskbar
* Select properties
* You get the display properties dialog box
* Click on the background tab
* Select a wallpaper of your choice
* Click ok.

Setting a screen saver
Screen savers keep information away from prying eyes and protect the screen from destruction when left on for too long
* On the display properties dialog box click o the screen saver tab
* Click on the down arrow for screen saver options
* Click the screen saver you want
* Click ok.

Changing the appearance
Changes the appearance of individual windows, icons etc

- On the display properties dialog box click the appearance tab
- Select a scheme of your choice
- You can also select an item e.g. menu in the item box and modify it appropriately.
- Click ok

SET TIME ,DATE AND CURRENCY

- Click on the start button
- Click on settings then control panel
- Double click on the Date/time icon

Month box

Year box

Spin buttons
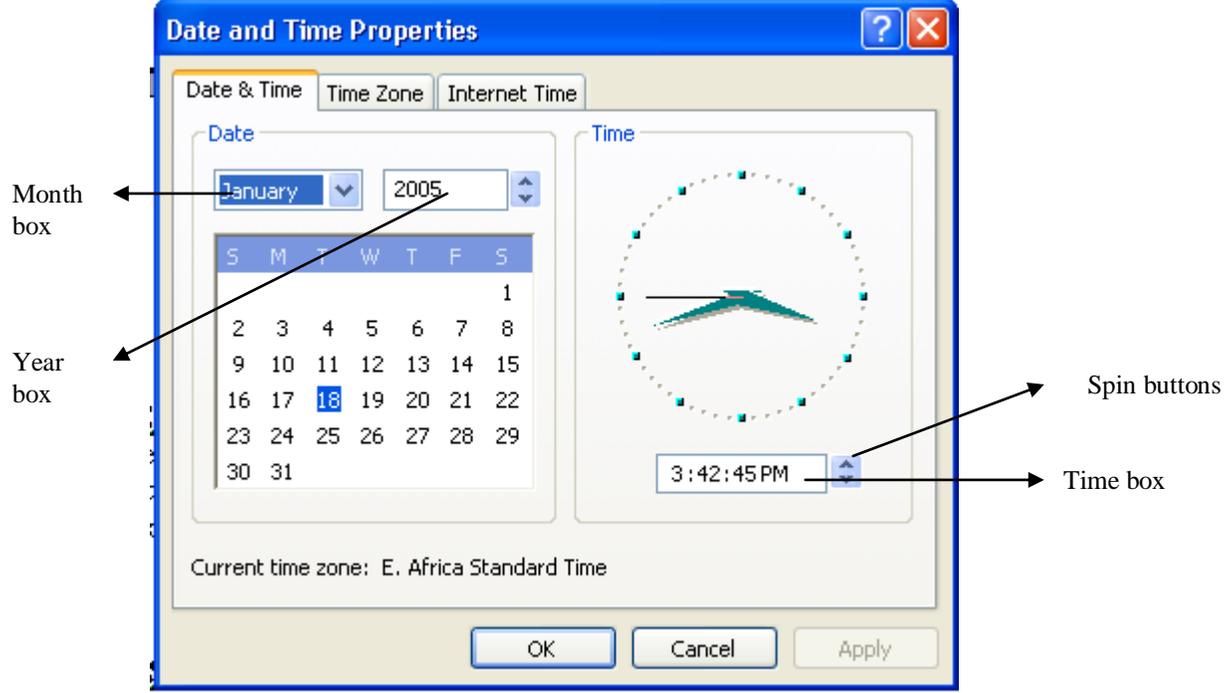
Time box

- To change the month click on the down arrow in the month box and select the required month
- Change the year by using either the down or up arrow
- To change the hour, click the position of the hour in the time box use the spin buttons to adjust it
- Repeat the same to change the minutes and seconds

TO CREATE A FOLDER ON THE DESKTOP

- Right click on a blank area of the desktop
- Select new then folder
- A new folder appears on the desktop
- Enter a name

DIFFERENT FILE TYPES

Files have different icons and extensions depending on the program in which they are created.

The icons below represent common file types

Microsoft word icon

Text file

Microsoft excel file

Bitmap image

Microsoft access file

FILE EXTENSIONS
Files will also be differentiated by their extension depending on the program they created in. File extensions have three characters and are separated from the file name by a period. E.g. report .doc
Common file extensions are:

. Doc-Microsoft word file
. xls-excel file
.mdb-access file
.ppt-Powerpoint file
.bmp-bitmap image file

GETTING FOLDER AND FILE PROPERTIES
- Right click on the file or folder
- Select properties
- This displays details like size, location, date created etc

SAVING FILES
- Click on the file menu
- Select save
- Open the folder where you want to save
- Enter a file name
- Click on save button

COPYING FILES OR FOLDERS
- Right click on the file or folder you want to copy
- Select copy from the menu
- Open the folder where you want to copy them to

- Right click on a blank area of this folder
- Select paste from the menu

MOVING FILES OR FOLDERS
- Right click on the file or folder you want to move
- Select cut from the menu
- Open the folder where you want to move them to
- Right click on a blank area of this folder
- Select paste from the menu

RENAMING FILES OR FOLDER
- Right click on the file or folder
- Select rename
- Enter the name

DELETE FILES AND FOLDERS
- Select the file or folder
- Tap the delete key on the keyboard

FORMATTING DISKETTES
- Double click on my computer icon on the desktop
- Right click on 31/2 floppy
- Select format from the menu
- Select the format option
- Click on start
- Click close button after the formatting is done

Nb: formatting a diskette erases all the information in it so don't format a diskette that has information you need.

WINDOWS UTILITY PROGRAMS

The calculator
- To load the calculator click on start
- Point at programs then accessories
- Click on calculator

cancel

Division sign

Square root sign

Multiplication

Minus sign

Addition sign
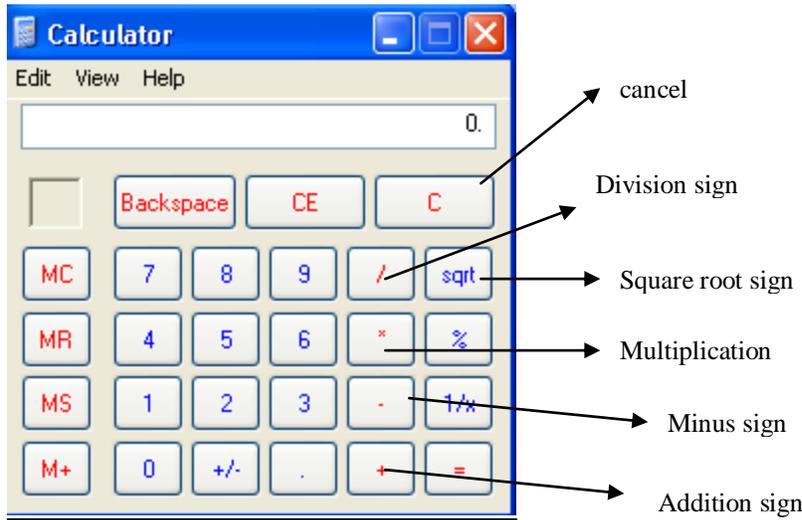
WordPad

- It is a program used to edit text
- To load it click on start button, point at programs
- Select accessories from the submenu then click on wordpad

Title bar

Menu bar

Toolbar

Typing area
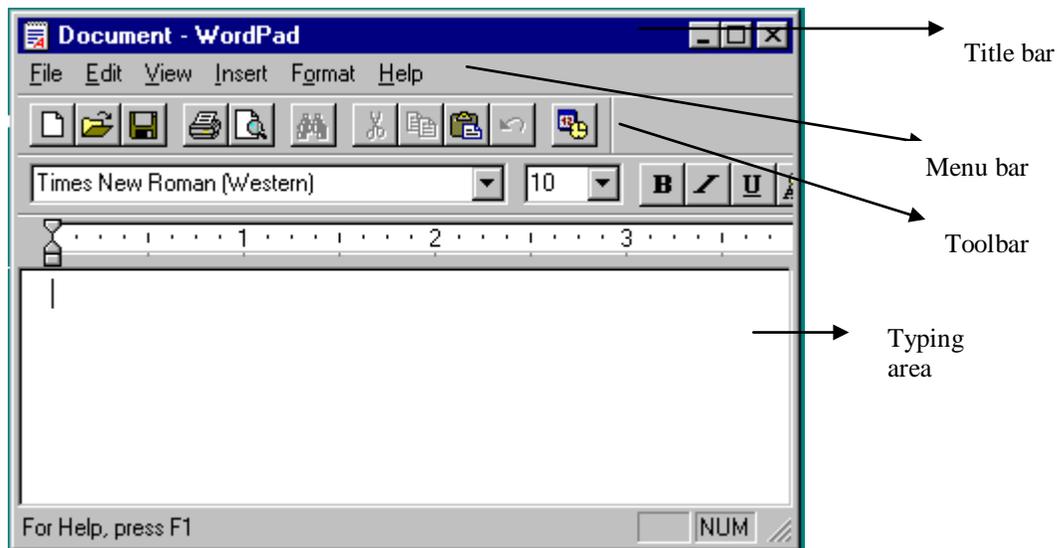
Paint

- An application used to produce drawings
- Click on start button, point at programs then select accessories from the submenu.
- Click on paint.