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Class

BSIT 1st Semester

Roll No

IT G1-143

Assignment

Computer

Topic # 01:-

Input & Output devices:-

Input devices:-

The devices which are used to enter data in digital form into the computer as a input is called Input devices.

There are three general types of Input device which are commonly used.

- Mouse \Rightarrow Pointing devices
- Keyboard
- Scanner \Rightarrow Source data-entry devices

1:- Keyboard:-

The Keyboard may look like a typewriter Keypad to which some special keys have been added. The keys available on the keyboards are Numeric, Alphabetic, Functions and additional Special-purpose Keys. The Keyboard is used to input the data into the computer by clicking keys by the users. All the keys have its own function and purpose.

-: Types of Keys :-

Esc Key:-

The Escape Key is used in different ways by different programs; often it allows to "escape" to the previous screen of the program.

Tab Key:-

The Tab Key, is used to tab across the screen and set tab stops as on a typewriter.

Caps Lock Key:-

When the Capslock Key is pressed, upper case letters are produced. Numbers and Symbol are not affected. When the Capslock is pressed, the status light under "Capslock" lights up.

Shift Key:-

The Shift Key is pressed in combination with other Keys to produce upper case letters.

Ctrl Key:-

The Control Key is pressed in combination with other Keys to initiate commands as specified by the software.

Alt Key:-

The Alternate Key is also used to ~~detate~~ combination with other Keys to initiate commands.

Enter Key:-

The Enter Key moves the cursor to the beginning of the next line. For instance it is used at the end of paragraph.

Backspace Key:-

The Backspace Key is used to delete a character to the left of the cursor, moving the cursor back one position.

Print Screen:-

The print Screen Key causes the current screen display to be taken a copy of information or image on the screen.

Scroll Lock:-

The scroll Lock Key causes lines of text images - not the cursor - to move. When the computer is in Scroll lock mode, the status light "Scroll lock" lights up.

Pause Key:-

The Pause Key causes the screen to pause when information is appearing on the screen too fast to read.

2:- Mouse :-

Mouse is a pointing device which is used control and move the cursor on the monitor screen.

A mouse is an input device that looks a little bit like a mouse. It has a ball on its underside that is rolled on a flat surface.

The rolling movement causes a cursor movement on the screen.

Mouse also have two buttons, which have different functions.

- The Left Key button is used to select the icons, files etc. By double click on Left-Key, the file is opened.
- The Right-Key button is used to show the details of an object, icons, files etc in line wise.

3:- Scanner:-

A scanner is an input device that captures documents such as photographs and text. Scanners use laser beams and reflected light to translate images of text, drawings, photos and the like into digital form. The documents that are scanned get converted into a digital format that is further edited or modified on any computer.

Types of Scanner:-

There are three types of Scanner.

- Drum Scanner
- Flatbed Scanner
- Handheld Scanner

(i) Drum Scanner:-

Drum Scanner is a form of document scanner where the original document to be scanned is wrapped around a drum and then scanned by moving the detector head as the drum rotated. Drum scanners are used where the highest resolution is required, as in scanning high-quality photographs for print reproduction.

(ii) Flatbed Scanner:-

Flatbed scanner is a scanner that provides a flat, glass surface to hold a sheet of paper, book or other object for scanning. The scan head is moved under the glass.

Flatbed scanners often come with sheet feeders for scanning multiple sheets of paper rather than one at a time.

It is used for scanning most

documents, photos and even flat objects from a PC or laptop.

Flatbed Scanner works like a copy machine. It scans documents placed face down on the glass.

(iii) Handheld Scanner:-

A Handheld scanner is an electronic device used for scanning physical documents into formats.

The handheld scanner can read barcodes and detect the code pattern with infrared light.

The handheld scanner consist of an actual reading unit and downstream decoding unit.

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- Output Devices :-

An output device is any hardware device which is used to send data from a computer to another devices or user. Output devices is also used to receive data as a output from the computer.

There are generally three types of Output Devices.

- Monitor
- Printer
- Speaker

1. Monitor

A monitor is an electronic output device that is also known as a video display terminal (VDT) or video display Unit (VDU). It is used to display images, text, video and graphics information generated by a computer.

Although it is almost like a TV, its resolution is much higher than a TV.

The first computer monitor was introduced on 1 March 1973.

Types of Monitor:-

There are generally three types of Monitor.

- CRT Monitors
- Flat Panel Monitors
- LED Monitors

(i) CRT Monitors:-

CRT (cathode Ray tube) is technology used in early monitors. CRT monitors uses a beam of electrons to create an image on the screen. It comprises the guns that fire a beam of electrons inside the screen.

These guns are responsible for generating RGB (Red, Green, Blue) colors and more other color is generated with the combination of RGB colors.

(ii) Flat Panel Monitors:-

Flat-Panel monitors are lightweight and take less space. They consume less power as CRT monitors. Flat-panel monitors are more affective and they are more expensive than CRTs.

The Flat-panel monitors are used in PDA, notebook computers, and cellular phones. These monitors are available in various sizes like "15, 17, 18 & 19."

The display of flat-panel monitor is made with the help of two plate of glass

(iii) LCD :-

LCD (liquid crystal display) screen contains a substance known as liquid crystal. It display offers a clear image than CRT monitors. LCD screen offers effective colors than CRT.

(iv) LED Monitor:-

It is a flat screen computer monitor, which stands for Light-emitting Diode display.

It is light weight in terms of weight and has a short depth.

- OLED Monitors
- DLP Monitors
- TFT Monitors

Topic 08:-

2. Printers & its types:-

A printer is a device that produces a hard copy (physical copy) of digital information like documents or image. Printer is an electronic device which is used to print the soft form of files, images on the papers.

There are several types of Printers.

- Ink-jet Printers
- LASER Printer
- Dot Matrix Printer
- Daisey Wheel Printer

(i) Ink-jet Printer :-

An ink-jet printer is a computer peripheral that produces hard copies of a text document or photo by spraying droplets of ink onto the paper.

A typical ink-jet printer can produce color printing copies with a resolution of 1200×1440 dpi.

An ink-jet printer can produce from 100 to several hundred pages, depending on the nature of hard copy, before the ink cartridges must be replaced.

(ii) LASER Printers

LASER stands for "Light Amplification by Stimulated Emission of Radiation."

A LASER printer uses a non-impact ~~photo~~ photocopier technology.

where there are no keys striking the paper.

When a document is sent to the printer, a laser beam "draws" the document on a selenium-coated drum using electrical charges.

Personal LASER printers are sufficient for printing Pages for week. The LASER printer can print up to 20 to 25 pages per minute.

(iii) Dot Matrix Printer:-

Dot matrix printer are a type of impact printer that prints using a fixed number of pins or wires and typically use a print head that moves back and forth or in an up-and-down motion on the page and prints by impact,

striking an ink-soaked cloth ribbon against the paper.

It is also known as Impact matrix Printer. Dot matrix Printer can print upto 800 pages per hour.

(iv) Daisy-Wheel Printer:-

A Daisy wheel printer is a specific type of mechanical impact printer popular in the 1970s. It consists of a metallic or plastic disk that stores letters, numbers that could be printed using the printer.

The printer's disk will rotate to the particular character when the user wants to print any character using the printer.

It can print 10 to 30 characters are printed in one second.

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- Topic ³ :-

CPU & its Component:-

- CPU :-

CPU (central Processing Unit) is the main part of the computer. It is also called brain of the computer. It performs all the operations on the data according to the program instructions.

CPU is located on the motherboard. Each instruction tells CPU to process data. It executes instructions and tells other parts of computer "what to do".

Main Parts of CPU:-

For functional point of view CPU is divided into three parts.

- ALU
- Register
- CU (control Unit)

(i) ALU:-

ALU (Arithmetic and Logical Unit) is the main part of CPU and is capable of performing all arithmetic and logical operations.

Parts of ALU:-

It consists of two parts.

Arithmetic Section

Logical Section

• Arithmetic Section:-

The arithmetic section of ALU performs the basic arithmetic operations such as addition, subtraction, division and multiplication.

• Logical Section:-

It performs the logical operations or functions. Like comparing two numbers to see which number is greater than, less than, equal to etc.

(ii) Register:-

Registers are high speed memory location inside the CPU where data can store temporarily during the execution of the program.

Capacity of these registers varies from CPU to CPU.

(iii) Control Unit (CU):-

Control unit controls overall communication and makes the computer to carry our program instructions in a strict sequence or order.

Importance :-

CU also helps the CPU in input/output operations. It transfer data from main memory to ALU.

It controls the execution process inside the computer

(-) instructions fetches from Main Memory.

-: Topic Obj:-

Comput Memory & its types:-

-: Memory :-

Memory can be defined as:

"A component of computer which stores program's instructions and data."

Computer memory stores information, such as data and programs for immediate use in the computer

Types of Memory :-

There are three types of memory.

- RAM
- ROM
- Register
- Cache Memory.

1. RAM

RAM stands for "Random Access Memory". It is a temporary memory. It is a volatile memory.

When computer is turn on, all the instructions or programs store into RAM.

When computer is turn off, all the instructions or programs

Lost into the RAM.

It stores all type of instruction and data. It is available in different capacities such as 1GB, 2GB, 4GB, 8GB etc.

- Types of RAM:-

There are three types of RAM

- DRAM
- SRAM
- MRAM

⇒ DRAM:-

DRAM stand for Dynamic Random Access Memory.

It needs to be refreshed after some time.

It is cheaper in price.

It can store much more data as compared to SRAM.

It is slower than SRAM.

⇒ SRAM:-

SRAM stands for "Static Random Access Memory."

It does not have to be refreshed.

It costs more than DRAM.

It is faster than DRAM.

It can store limited data as compared to DRAM.

⇒ MRAM:-

MRAM stands for (Magneto-resistive) Random Access Memory.

It can store large amount of data as compared to SRAM & DRAM.

MRAM is a method of storing data using magnetic charges instead of electrical charges.

2. ROM

ROM stand for Read only Memory. It is a Permanent memory. It is a non-volatile memory. In this memory, all the data and instructions store permanently. The instruction store into ROM is called BIOS.

-:Types of ROM:-

There are three types of ROM.

- (i) PROM
- (ii) EPROM
- (iii) EEPROM

⇒ PROM:-

It is stands for "Programmable Read only Memory." PROM is a programmable memory. The user can write instruction on PROM, only once. The instruction written by the user cannot be erased from PROM.

⇒ EPROM..

It is stand for "Erasable Programable Read only memory."

The user can write instruction on PROM. EPROM is electronically programmable memory. The users can write instructions on EPROM many times. The instruction written by the users can be erased from EPROM by using UV light.

It is very difficult to ~~or~~ erase.

⇒ EEPROM:-

It's stand for "Electrically Erasable Programmable Read Only Memory."

In this type of ROM, Instructions can be written and erased with the help of Electric Pulses.

3. Register

Registers are small, high speed storage areas within a computer's CPU used to quickly store and retrieve data. They come in various types:

PC Register:-

Program Counter keeps track of the memory address of the next instruction to be fetched.

IR Register:-

Instruction Register (IR)

Holds the current instruction being executed.

MAR Register:-

Memory Address Register (MAR)

contains the address in memory of where data is to be fetched or stored.

MDR Registers:-

Memory Data Register (MDR)

holds the actual data to be written to or read from the memory location.

Accumulator:-

Accumulator stores the result of arithmetic and logical operations.

Index Register:-

Index Register' used for indexing operation in certain computer architectures.

Stack Pointer:-

Stack Pointer . Keeps track of the top of the stack in memory for stack based operations.

Each type of register plays a crucial role in managing data and instructions within a computer CPU, processing and manipulation of information.

- Topic 05:-

Software & its type:-

:Software :-

A set of instructions given to the computer to perform a specific task is called software.

Software tells the computer what to do and How to do.

Software is classified in two types.

(i) Application Software

(ii) System Software

=> Application Software:-

Application software is a program used to solve common or routine life tasks or problems.

There are two types of Application Software.

Custom-Built Software

Packaged Software

(i) Custom-Built Software:-

The software which is specially designed for demand of particular customer or an organization to solve particular task is called ~~System~~ Custom-built software.

Example:-

Banks Softwares, Pharmacy software.

NADRA software.

(ii) Packaged Software:-

This is the software that is designed for sale to the general users to solve their different problems.

Example:-

Microsoft Office

Windows XP

WhatsApp

⇒ System Software:-

The software which is used to design to control and manage the computer hardware and software. System Software provide a platform to control and manage the other application resources.

- Types :-

(i) Operating Software:-

Operating system is a type of system software that provides a user-friendly interface b/w computer and user. It also manage the other application programs.

Windows OP

Linux OP

(ii) Device Drivers:-

Device Drivers are the programs that facilitate the communication between the operating system, and the hardware devices. Its enabling the OS to control hardware component.

(iii) Utility Program:-

These programs perform specific tasks related to managing system resources, such as disk management tasks, antivirus software.

(iv) Language Translator:-

Compiler, Interpreter and assembler are used to convert programming languages into machine code so that the compiler can understand and execute the instructions written in these languages.

(v) Firmware:-

It's a type of software that is embedded into hardware devices. It provides low-level control for the devices specific operation and is stored in non-volatile memory.