Input Devices

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1. **Keyboard**

A computer keyboard is an input device that authorized the user to input letters, numbers, and other symbols into a computer system. It is one of the most used input devices for computers. The process of entering data through keyboard is called typing. A keyboard contains many mechanical switches or push buttons called keys. After pushing a key, a circuit is closed and a signal is sent by keyboard to CPU which letter/symbol/number is to be shown on the screen.

- **Types of keys:** There are 104 keys on a standard keyboard.
  - **Alphabet keys:** There are 26 keys are present on the keyboard not in alphabetically order. The keys are used to type word, sentence or paragraph.
  - **Number keys:** To type the numbers, these keys are present above the alphabet key and in the right side of keyboard for typing the numbers.
  - **Function keys:** Keys from F1 to F12 are termed as function keys. These include the top row of the keyboard accompanied with alternate commands. The function keys act as shortcuts of certain commands like F1 for help, Alt+F4 for shut down.

- o **Special keys:** The special keys which are 7 in number commonly found on a keyboard include Ctrl, Alt, Shift, Caps Lock, Num Lock, Scroll Lock, and the Windows key. These keys are used in doing specific functions in combination with other keys and individually too for executing commands and shortcuts.
  - o **Navigation keys:** These are the directional keys to move cursor or to highlight on the screen working with shift key. These are arrow keys present on the keyboard.

- **Mouse**

  It's a handheld pointing device designed to detect two-dimensional motion about a surface that changed into movement of cursor on the screen.

  Mouse helps in doing many functions like:

  - o Moving the cursor
  - o Selection of objects
  - o Scrolling
  - o Pointing

  There are different types of mice
  - o Mechanical Mouse
  - o Optical Mouse
  - o Laser Mouse
  - o Trackball Mouse
  - o Motion sensing Mouse
  - o 3D Mouse
  - o Vertical Mouse

- **Microphone**

  This input device allows user to input data/audio into computer system. The microphone is used in computer system for:
  - o Voice recording for singing, podcast, musical instrument.
  - o Video recording
  - o Voice recognition
  - o Computer gaming
  - o Online chatting

- **Joystick**

  Joystick are widely used in different applications like gaming, robotics, music, aviation etc. joystick gives the precise control of the gamer in

virtual environment as compared to any other traditional controller and also in-flight simulators, racing games, and space exploration games.

- **Scanner**
  A scanner can convert the hard copy of the document into an editable soft copy in the computer system. A scanner can be of various types.
  - **Card scanner** – use to scan business cards.
  - **Drum scanner** - Rotates scanned page around a drum for scanning the page.
  - **Handheld scanner** - By dragging the device over the page for scanning.
  - **Pen scanner** – A pen shaped scanner to scan the text.
  - **Sheetfed scanner** - Scans paper by feeding these in to it.
  - **Spatial digitizer** – scanner to scan 3D image.

- **Light pen**
  Light pen is an input device that is used in the computer system to select text, draw pictures and open program.

  Uses of Light pen:
  - To Highlight text and image.
  - To draw picture on the computer screen.
  - To edit the text.

  Types of Light pen:

  - LED light pen
  - Corded light pen
  - Battery light pen
  - Design light pen

- **Barcode reader**
  It read and interpret data from barcode labels and transmit the data into computer or other devices. It can be handheld or fixed. It is widely used in shopping complex to scan barcode installed on the article to interpret and transmit the price in the computer system for invoicing.

- **Touchscreen**

  It is a special screen that take the input by sensing the touch of finger, stylus or pen or any other pointing device.

Example of touch screen devices are:

- o Smartphones and tablets.
- o Personal computers
- o handheld gaming machines.
- o ATMs
- o Cash registers
- o Point-of-sale machines.
- o Control panels on fitness, medical, and industrial equipment.
- o Car GPS
- o Stereos.

- **Trackball**
  It is a different kind of mouse consist of a ball hold by socket containing sensor to detect the motion of the ball about two axis. It moves the computer cursor around the screen like mouse. The ball is moved with the help of thumb and fingers and sensor inside the ball to detect its direction.

- **Graphic tablet**
  Graphic tablet is an input device that allow the user to draw images, animation and graphics with the help of a stylus (pen).
  The graphic tablet is used by many professionals like Illustrator, architect, artist, cartoonist, photographer, graphic designer etc.

- **Magnetic Ink Card Reader (MICR)**
  Magnetic ink character recognition readers are the primary tool used for sorting, processing and validation of check. While scanning a document like check, MICR readers magnetize the ink and detect the MICR characters.

- **Optical Character Reader (OCR)**
  OCR is an input device used to read a printed text. It converts the text into machine readable code and store in the computer system.

- **Optical Mark Reader (OMR)**
  Optical Mark Reading or optical mark recognition, OMR collects information from human beings by identifying marks on a document. OMR used a hardware device (scanner) that detects a reflection or limited light transmittance on or through a piece of paper.