جامعة التنمية البشرية
UNIVERSITY OF HUMAN DEVELOPMENT

COMPUTER PROGRAMMING CONCEPTS

CS&IT 1101
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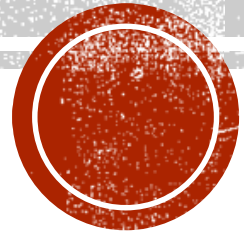
LAB 1: PC PARTS



OUTLINES

1. External Components
2. Internal Components
3. Communication ports
4. Storage Devices

EXTERNAL COMPONENTS

- Consist of:
  - Case
  - Monitor
  - Keyboard
  - Mouse.

CASE

- The case is the “box” that holds the internal components of the PC. It protects those delicate components from dust and debris.

MONITOR

- The monitor is the main *output* component used on a PC. It's where the computer is able to show you what it, and you, are doing.

KEYBOARD

- The keyboard is the main input device you use with a computer or PC-based equipment.

MOUSE

- On any PC that uses graphics (pictures), a mouse is an essential input device that allows you to control the PC.

INTERNAL COMPONENTS

- Internal components are the parts of the computer that do most of the work, though they are behind the scenes.
- Understanding their basic functions is important to understanding the PC as a whole.

INTERNAL COMPONENTS

- Motherboard
- CPU
- Drives
- Expansion cards
- Memory
- Power supply

MOTHERBOARD

- The motherboard (main board, system board) is a large circuit board which all other PC components connect to in some way.

CENTRAL PROCESSING UNIT (CPU)

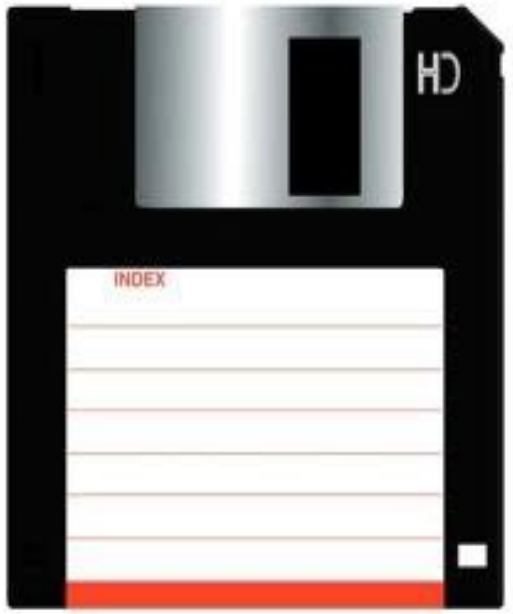
- The CPU is the brain of the PC. All work done by the PC involves the CPU in some way. The CPU plugs into the motherboard.

DRIVES

- There are many kinds of drives in a computer:
- CDROM drives, hard drives, floppy drives, ZIP drives, tape drives, pen drives. The basic function of all drives is to store information (more on this later).

HARD DRIVE

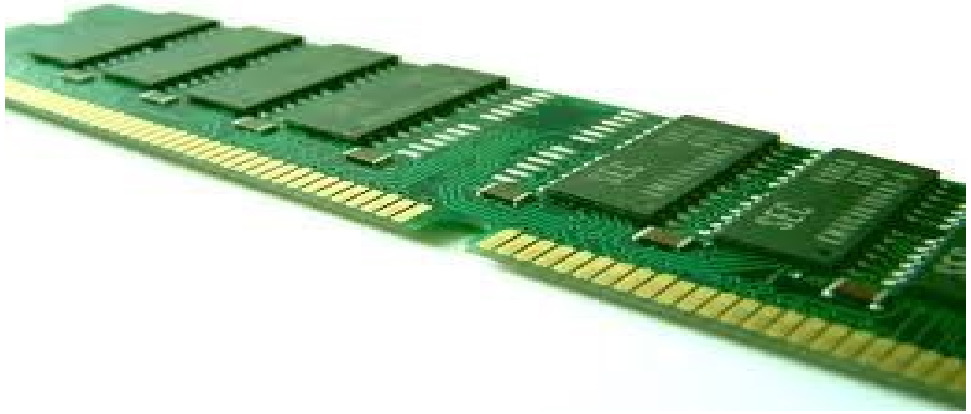
FLOPPY DRIVE



CD- OR DVD- ROM DRIVE

RANDOM ACCESS MEMORY (RAM)

- RAM is memory that the CPU uses when performing its tasks.
- RAM consists of chips that plug into the motherboard.
- In general, the more RAM you have, the better.



EXPANSION CARDS

- Expansion cards are circuit boards that plug into the motherboard to expand its capabilities. Sound cards are an example. One required expansion card is the video card, which connects to the monitor.

VIDEO CARD

- Normally an expansion card, but sometimes built into the motherboard (*integrated*), the video card has 15 holes, in three rows of five.

INTERNET CARD

POWER SUPPLY

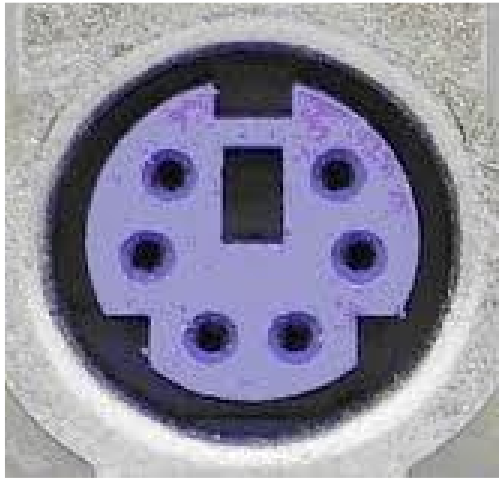
- The power supply is crucial to the PC. It converts power from the wall outlet into power the PC can use.
- It powers all internal components, including the motherboard and drives.

COMMUNICATION PORTS

- Common communication ports are:
  - Keyboard
  - Mouse
  - Modem
  - Network Interface Card (NIC)
  - USB

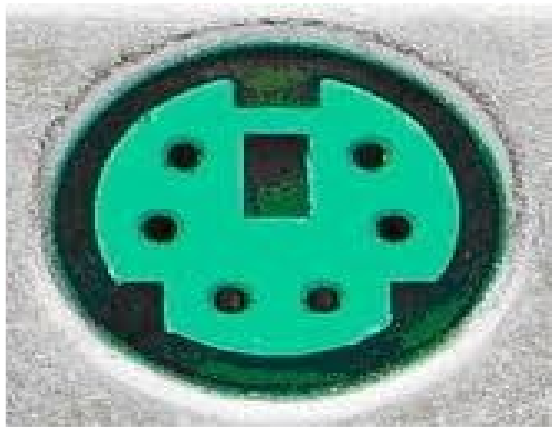
KEYBOARD

- Barcode readers often attach to keyboard ports.
- Keyboard ports appear in DIN5 and PS/2 or Mini-DIN6 (below).



MOUSE

- Some input devices connect via a mouse port.
- Common mouse ports are PS/2 (Mini-DIN6) on the left and serial (9 pin male) on the right.
- Don’t connect a mouse-port device to a keyboard port.

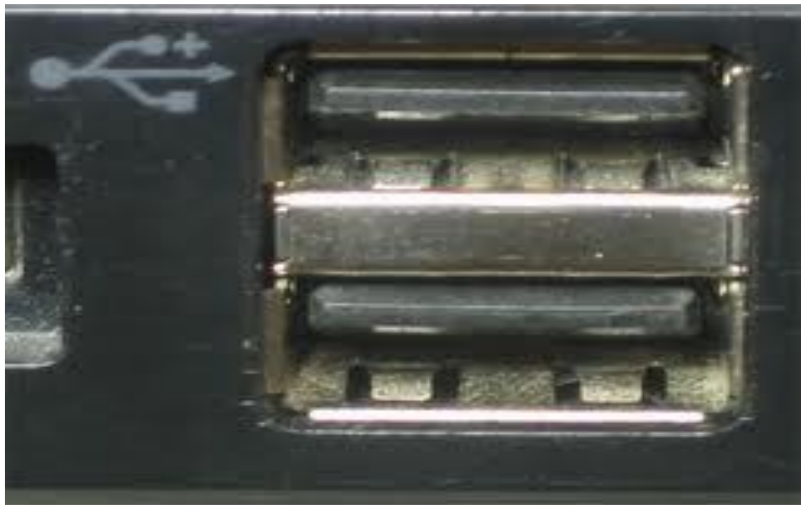


NETWORK INTERFACE CARD (NIC)

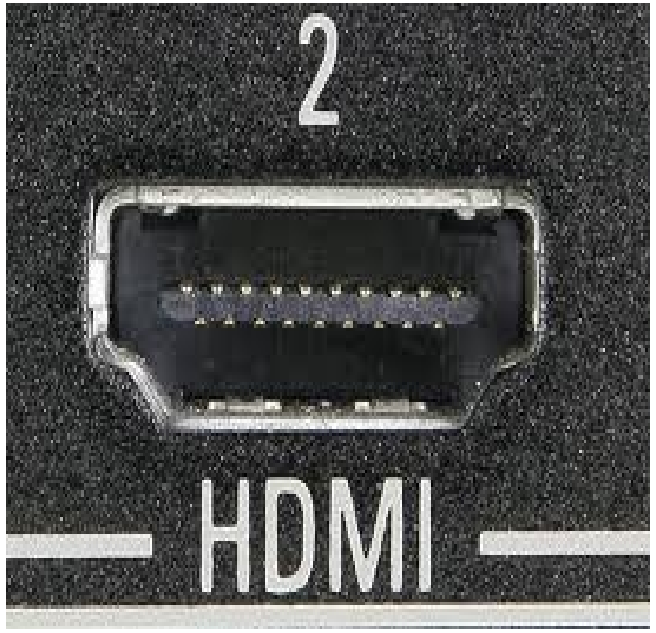
- NICs are expansion cards that connect PC devices to networks via special network cable.
- Many connections to external machines are now made via NICs, which normally have one port.

UNIVERSAL SERIAL BUS (USB)

- A popular technology to connect to external devices is USB, which can support 127 devices.
- USB will eventually replace keyboard, serial, and parallel ports.



HIGH-DEFINITION MULTIMEDIA INTERFACE (HDMI)



STORAGE DEVICES

- Storage is easiest to think of in terms of *primary* and *secondary*.
- Primary storage is used by the CPU. The primary example is RAM. Primary loses information without power.
- Secondary devices can store data without power. Drives are the main secondary storage devices.
- RAM stores information that is currently active. Information in RAM must be saved to secondary storage or it will be lost when power is removed.
- Secondary storage keeps data unless the user removes it (or the device fails).

RAM

- RAM stands for Random Access Memory
- RAM changes constantly as the CPU needs different items in memory based on the user's requests.
- RAM is lost when power is removed.

ROM

- ROM stands for Read Only Memory
- ROM does not change.
- ROM is not lost when the power is removed from a PC.
- ROM stores key instructions that the computer needs to boot up and operate.

OVERVIEW

- The PC consists of common external and internal components.
- Each component has a specific task.
- Communication ports connect to external devices.
- Storage devices are classified and primary or secondary.

THANK YOU.....

DO YOU HAVE ANY QUESTIONS ?