

# Hardware

Computer hardware & its components

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# COMPUTER HARDWARE

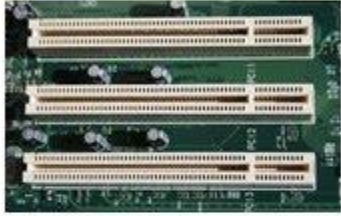
- Computer hardware is a collective term used to describe any of the physical components of an analog or digital computer
- Hardware and software are complementary. A computing device can function efficiently and produce useful output only when both har
- Computer hardware can be categorized as being either internal or external components. Generally, internal hardware components are those necessary for the proper functioning of the computer, while external hardware components are attached to the computer to add or enhance functionality. dware and software work together appropriately.

# INTERNAL COMPUTER HARDWARE COMPONENTS

Internal components collectively process or store the instructions delivered by the program or operating system (OS). These include the following:

- **Motherboard**
- **Cpu**
- **Ram**
- **Hard drive**
- **Solid state drive**
- **Optical drive**
- **Heat sink**
- **Graphic processing unit**
- **Network interface card**

# TYPES OF HARDWARE



# EXTERNAL HARDWARE COMPONENTS

External hardware components, also called peripheral components, are those items that are often externally connected to the computer to control either input or output functions. These hardware devices are designed to either provide instructions to the software (input) or render results from its execution (output).

Common input hardware components



1. Mouse
2. Keyboard
3. Microphone
4. Camera
5. Touchpad
6. Usb Flash Drive
7. Memory Card
8. Monitor
9. Printer
10. Compact Flashcard
11. Headphones
12. Earphones
13. Earbuds

# HARDWARE VS. SOFTWARE

Hardware	Software
<ul style="list-style-type: none"><li>➤ Hardware is further divided into four main categories:</li><li>➤ Input Devices</li><li>➤ Output Devices</li><li>➤ Secondary Storage Devices</li><li>➤ Internal Components</li></ul>	<ul style="list-style-type: none"><li>➤ Software is further divided into two main categories:</li><li>➤ Application Software</li><li>➤ System Software</li></ul>
<ul style="list-style-type: none"><li>➤ Developed using electronic and other materials</li></ul>	<ul style="list-style-type: none"><li>➤ Developed writing using instructions using a programming language</li></ul>
<ul style="list-style-type: none"><li>➤ When damaged, it can be replaced with a new component</li></ul>	<ul style="list-style-type: none"><li>➤ When damaged it can be installed once more using a backup copy</li></ul>
<ul style="list-style-type: none"><li>➤ Hardware is physical in nature and hence one can touch and see hardware</li></ul>	<ul style="list-style-type: none"><li>➤ The software cannot be physically touched but still can be used and seen</li></ul>
<ul style="list-style-type: none"><li>➤ Hardware cannot be infected by Viruses</li></ul>	<ul style="list-style-type: none"><li>➤ The software can be infected by Viruses</li></ul>
<ul style="list-style-type: none"><li>➤ Hardware will physically wear out over time</li></ul>	<ul style="list-style-type: none"><li>➤ Software does not wear out but it can be affected by bugs and glitches</li></ul>
<ul style="list-style-type: none"><li>➤ An example of Hardware is hard drives, monitors, CPU, scanners, printers etc.</li></ul>	<ul style="list-style-type: none"><li>➤ An example of software is Windows 10, Adobe Photoshop, Google Chrome etc.</li></ul>



# WHAT IS HARDWARE VIRTUALIZATION

- **Hardware virtualization** is the abstraction of physical computing resources from the software that uses those resources. Simply put, when software is used to create virtual versions of hardware instead of using physical, tangible hardware components for some computing function, it is known as ***hardware virtualization***.
- hardware virtualization is executed on a particular hardware platform by host software. It requires a **virtual machine** manager called a **hypervis**
- such as the following:
  - billing
  - monitoring
  - log access
  - security
  - load balancing
  - clustering



# HARDWARE AS A SERVICE

- ▶ While it's common for individuals or businesses to purchase computer hardware and then periodically replace or upgrade it, they can also lease physical and virtual hardware from a service provider. The provider then becomes responsible for keeping hardware up to date, including its various physical components and the software running on it.
- ▶ This is known as the *HaaS model*.

# QUESTIONARY

- **What is computer hardware?**
- **What are internal computer hardware components?**
- **What are external hardware components?**
- **Hardware vs. software**
- **What is hardware virtualization?**
- **What is hardware as a service?**

**THANK**

**YOU**