

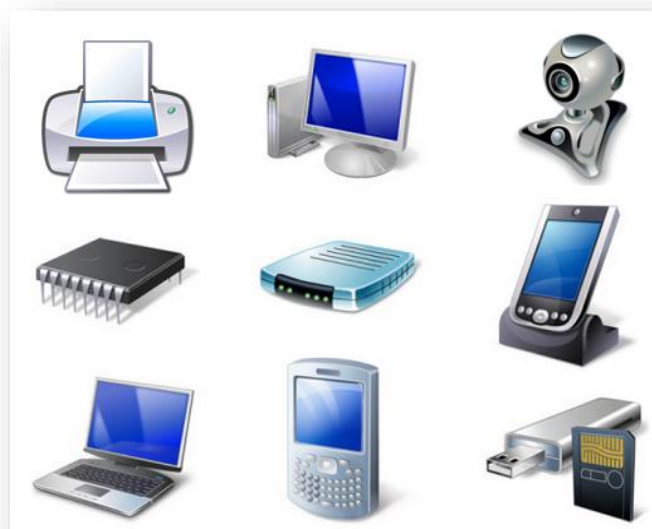
**EVANGELOS C. ZIOULAS**

IT Teacher



**CHAPTER  
2.2**

**COMPUTER HARDWARE**





## COMPUTER CATEGORIES

The computer categories are distinguished by **size**, **cost** and **capabilities**.

### SUPERCOMPUTERS

- They are at the frontline of current processing capacity and speed of calculation.
- They are **very high-powered** computers.
- They process **huge volumes** of data.
- Their speed is measured in **TFlops** (1 Tflop  $\approx$  1000 GHz)
- They have huge cost of purchasing and maintaining.
- Applicable in research centers, universities, space missions, climate research, weather forecasting etc
- Examples: Blue Gene, Earth Simulator, Ascii White etc



### MAINFRAMES

They are **powerful computers** used mainly by large organizations for critical applications, typically **bulk data processing** such as **census**, industry **statistics**, **financial transaction** processing etc

They operate as **central systems (servers)** in which a number of individual stations (personal computers or terminals) are connected.

- The users can **share** the system equipment and capabilities.
- Applicable in banks, ministries, enterprises, universities etc.
- Two important properties are **multitasking** and **multiuser**.
- **Multitasking** is the ability of computers to simultaneously perform more than one program for the same user.
- **Multiuser** is the ability of systems to be used simultaneously by multiple users with different programs.



### MICROCOMPUTERS

- They are also called **personal computers (PC)**.
- They support user in any personal or professional usage.
- They are affordable computers and networking.
- Categories: **desktops** (horizontal cases) and **towers** (vertical cases).



### PORTABLES

- They are a subclass of microcomputers with fewer abilities.
- A portable is a personal computer for mobile use.
- Less weight and size but **low upgradeability**.
- Battery operated with **high portability** (easily transferred).
- Types :
  - Laptop or Notebook
  - Tablet
  - Smartphone
  - Wearable

