

# 16. Computer Hardware

## Computer types

### Personal computers

Mainly single user computer system having moderately powerful microprocessor

### Work Station

Technically same as PC, but more powerful

### Mini Computer

### Main Frame

### Super Computer

Extremely fast computer which can execute hundreds of millions instructions per seconds

## Peripherals

### Input devices

Interact with computer (mouse, keyboard...); send data

### Output devices

Provide output to the user from computer (monitors, printers...)

## Processors

Central processor unit (CPU)

Logical circuit

Respond to and processes basic instruction that drive a computer

Single or Multiple cores (threads)

Speed is determined by clock rate / frequency

## Memories

### ROM

Read Only Memory

Only read but cannot write on it

Information is stored permanently in such memories during manufacture and stores required instructions to start computer

### RAM

Read/Write memory

Stores until machine is working

As soon as machine is switched off, data is erased

## History

The first computer with RAM was introduced in 1955 → revolutionary computer that was first digital computer with magnetic core RAM and real-time graphics → called Whirlwind machine

The first microprocessor intel 4004 was introduced in 1971 and it was first processor with a 4-bit register, clock speed 740kHz, smaller than a human thumbnail