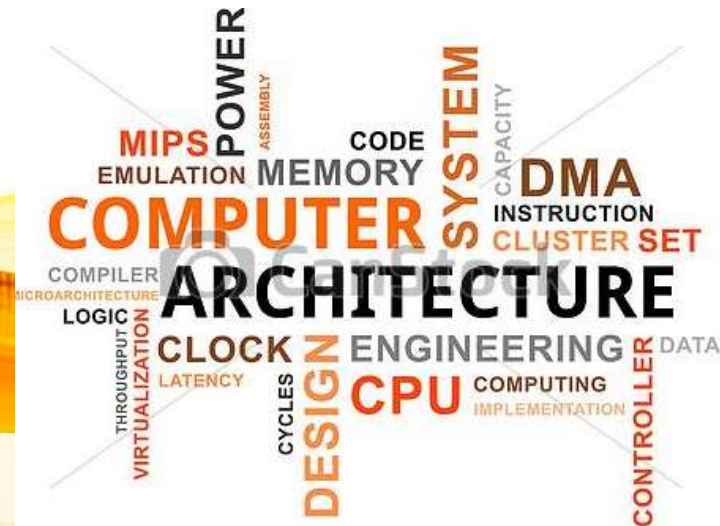


# UNIT I

## BASIC STRUCTURE OF COMPUTERS

**Functional units - Basic operational concepts** - Bus Structures - Performance - Memory locations and addresses - Memory operations - Instruction and Instruction sequencing -- Addressing modes - Assembly language - Case study : RISC and CISC Architecture.



# Recall the prior Knowledge

Computer ?

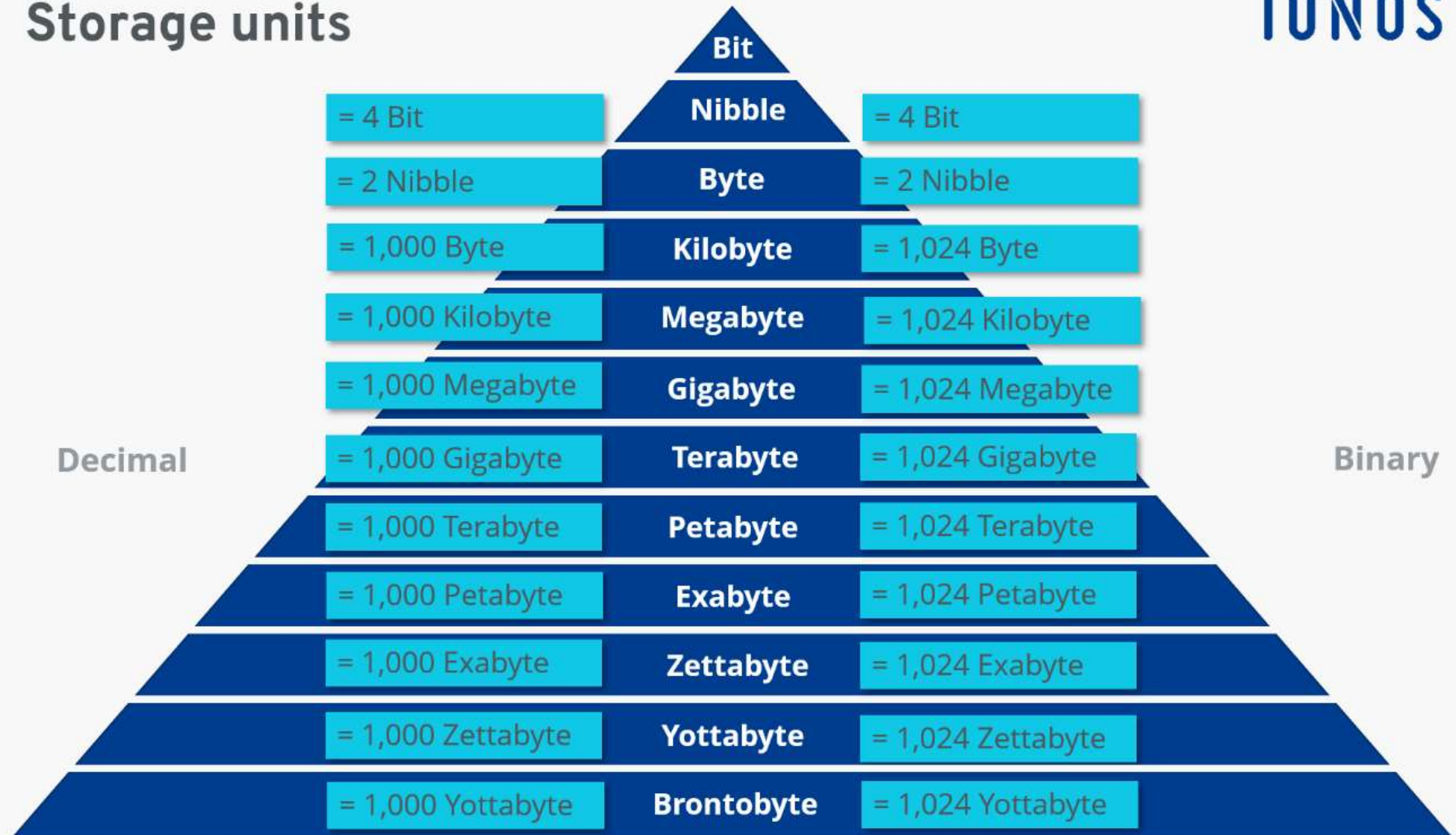


# Storage units

IONOS

Decimal

Binary



architecture  
changing  
definition  
registers  
million  
emulation  
function  
integrators  
modern  
debuggers  
abstract  
compiler  
bottleneck  
throughput  
efficient  
circuit  
redesign  
machine  
elements  
run  
validation  
designers  
assess  
bottleneck



# Why to study computer Architecture?

Structure an internal component of a computer

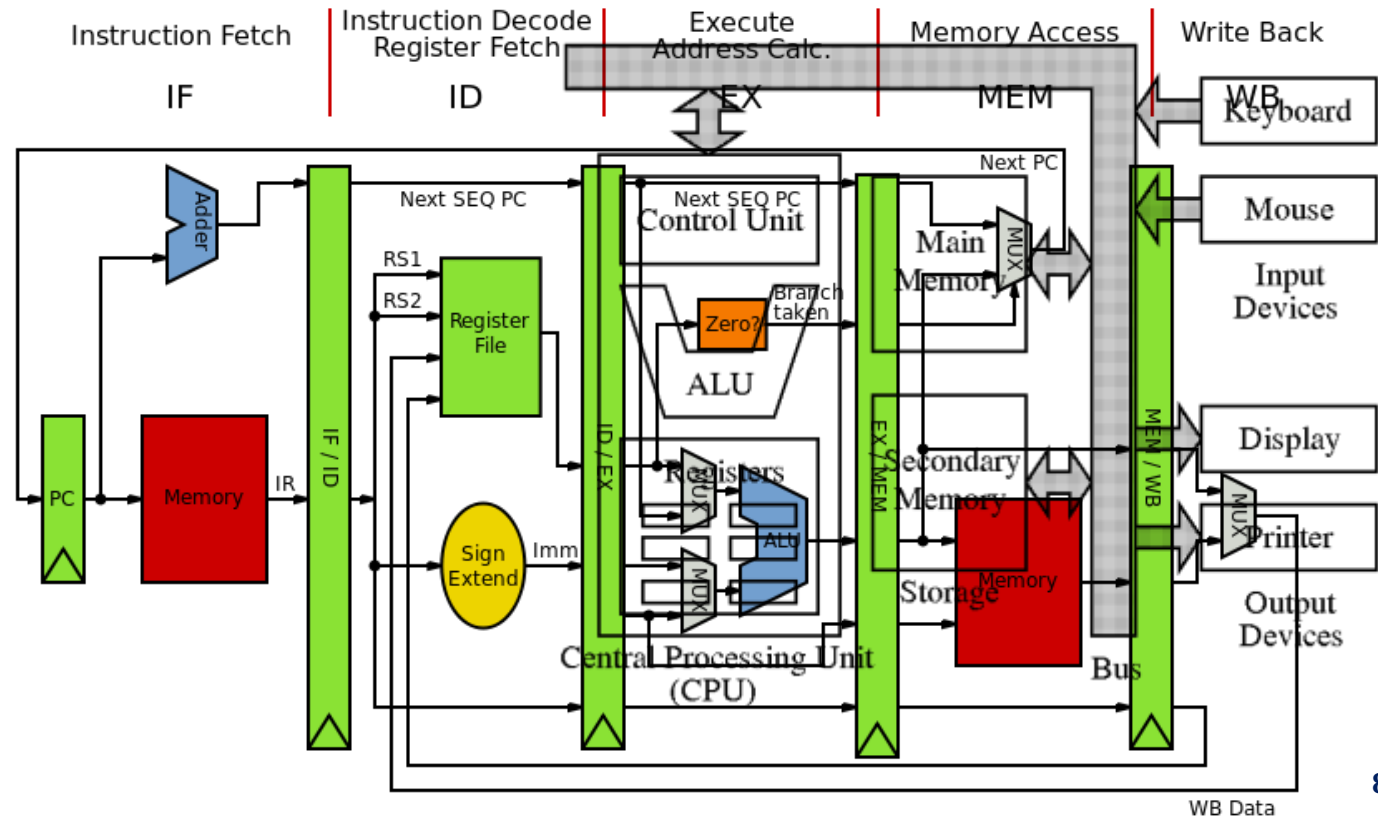
Program to realize the logics

Runs more efficiently on a real time machine

# Introduction

Computer

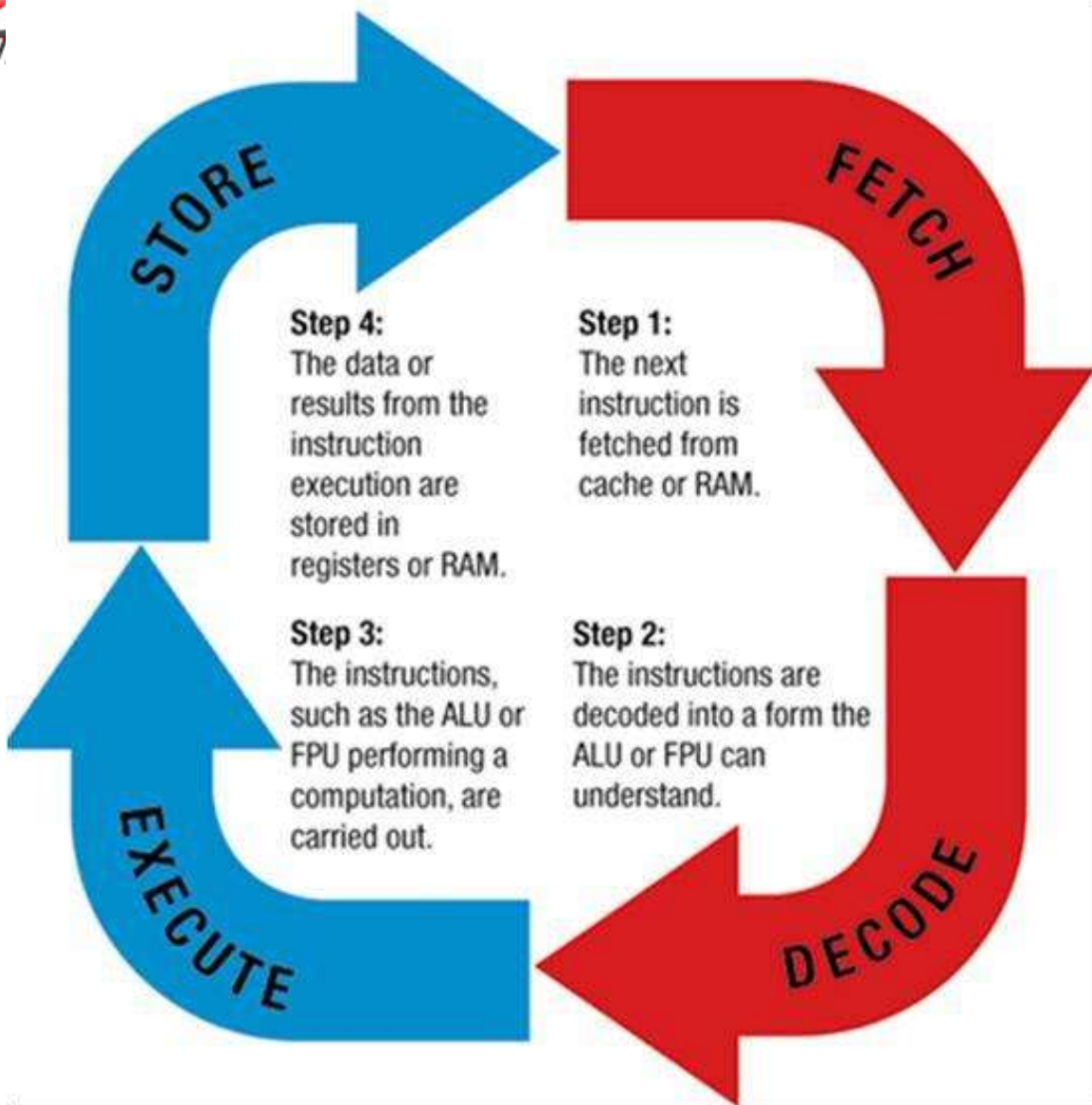
Architecture



# Definition

- Concerned with the structure and behavior of the various functional modules computer and how they interact to provide the processing needs of the user.
- Refers to the operational units and their interconnections
- Computer is a fast electronic calculating machine which accepts digital input, processes it according to the internally stored instructions (Programs) and produces the result on the output device.

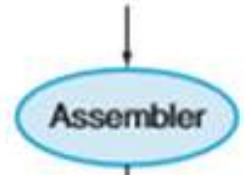
High-level language program (in C)



# ersion

```

swap:
    multi $2, $5, 4
    add $2, $4, $2
    lw $15, 0($2)
    lw $16, 4($2)
    sw $16, 0($2)
    sw $15, 4($2)
    jr $31
    
```

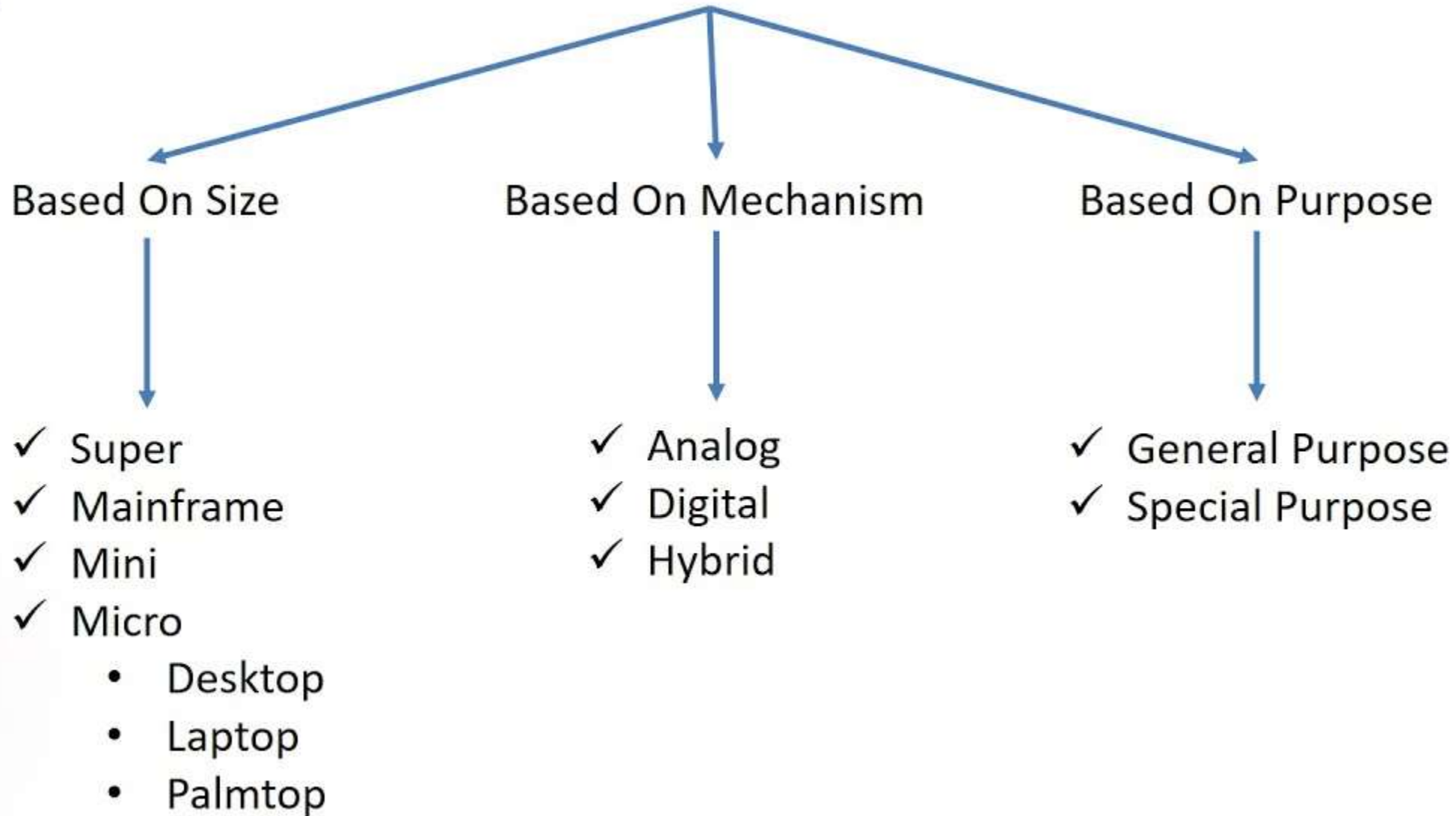


```

000000101000100000000100011000
00000010000010000100000100001
001101111000100000000000000000
0011100001001000000000000000100
1011100001001000000000000000000
1011011110001000000000000000100
0000001111100000000000000000100
    
```



# Types of Computer





# Computer Types

Mainframe  
Computer



many

Super  
Computer



Calculations

Workstation  
Computer

work purpose.

## Personal Computer (PC)

It is a low cap

## Apple Macin

It is a sort of ]

## Laptop comp

It is a handy c

## Tablet and S

Modern technology has advanced further. It has helped develop computers that are pocket-friendly.

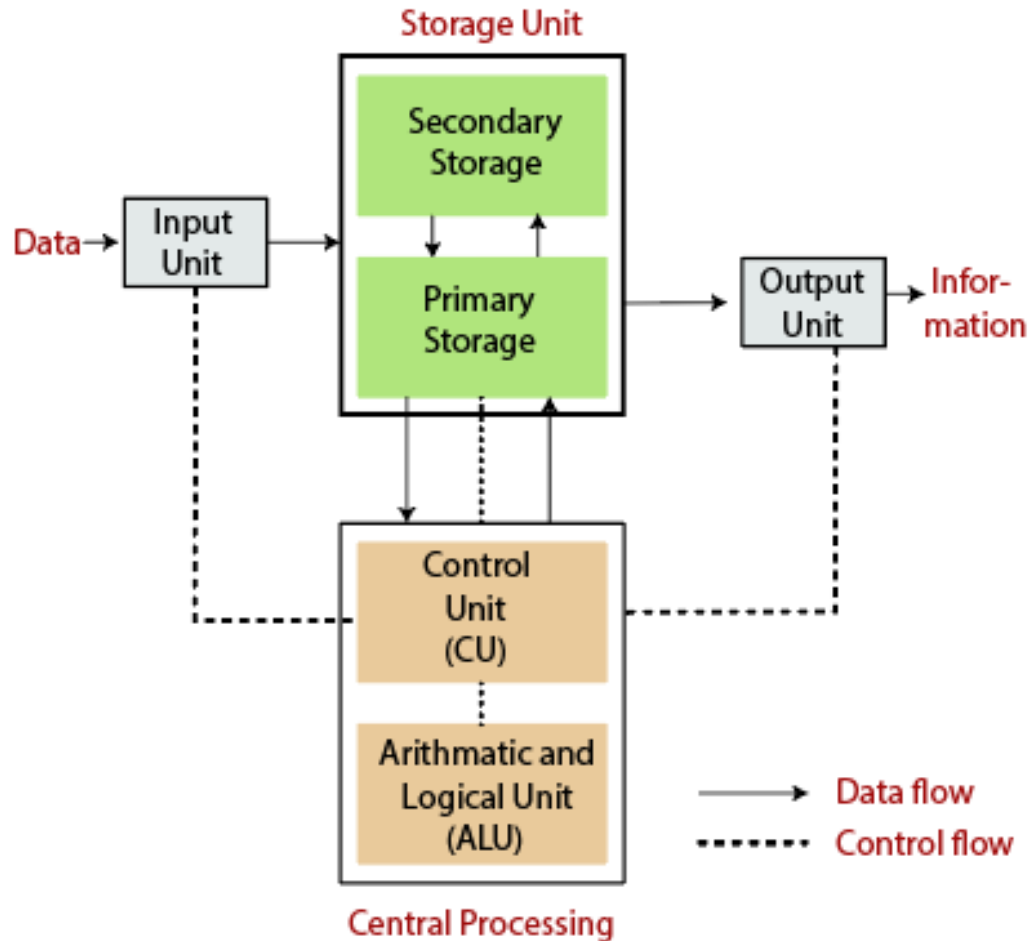


# Generation of Computers

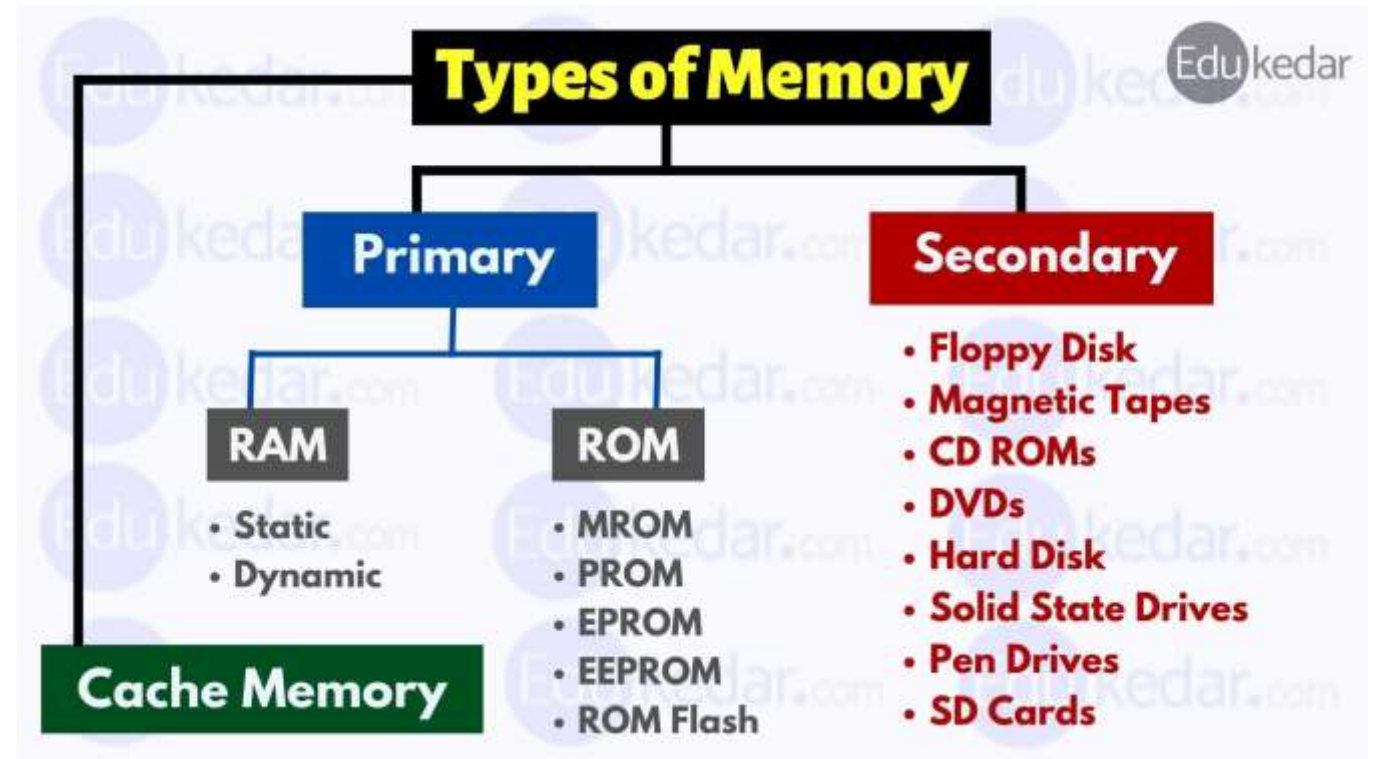
<b>Generations of computers</b>	<b>Generations timeline</b>	<b>Evolving hardware</b>
First generation	1940s-1950s	Vacuum tube based
Second generation	1950s-1960s	Transistor based
Third generation	1960s-1970s	Integrated circuit based
Fourth generation	1970s-present	Microprocessor based
Fifth generation	The present and the future	Artificial intelligence based



Block diagram of Computer



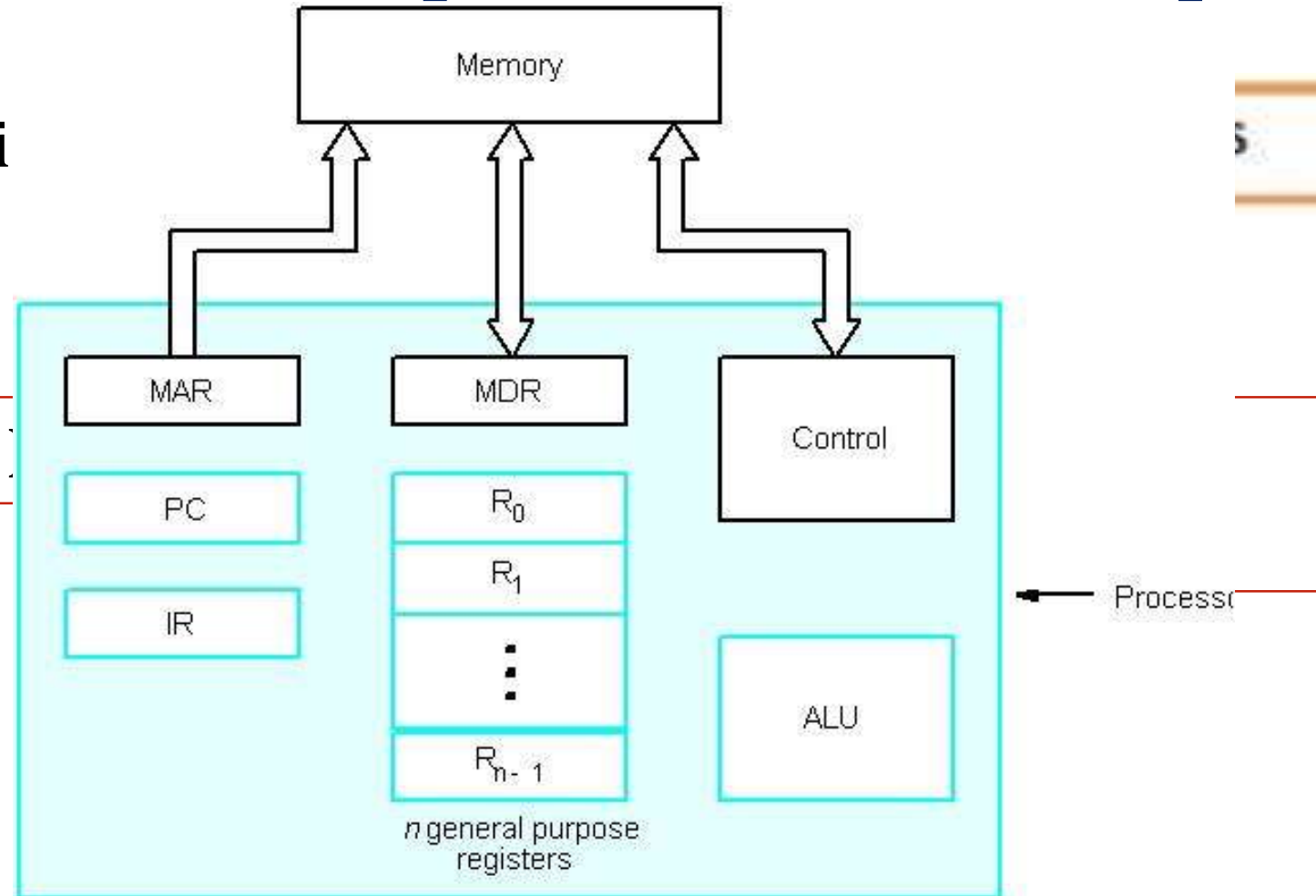
# Functional Unit



# Basic Operational Concepts

- Instruction consi
- Example

ADD LOCA,





**sns**  
INSTITUTIONS



*Thank You*