



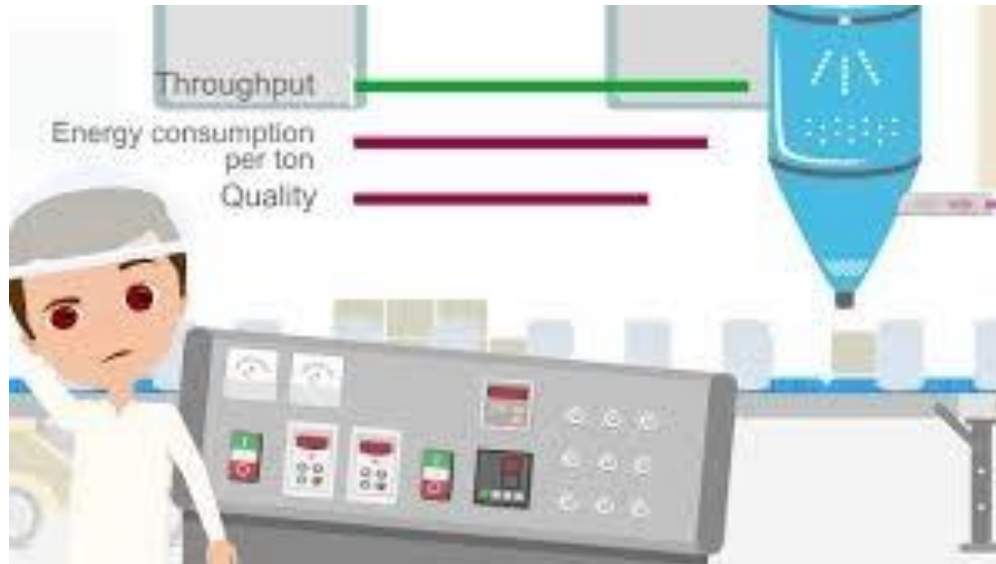
SNS COLLEGE OF ENGINEERING

(Autonomous)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



MICROCONTROLLERS AND ADVANCED MICROCONTROLLERS



Guess Today's Topic????

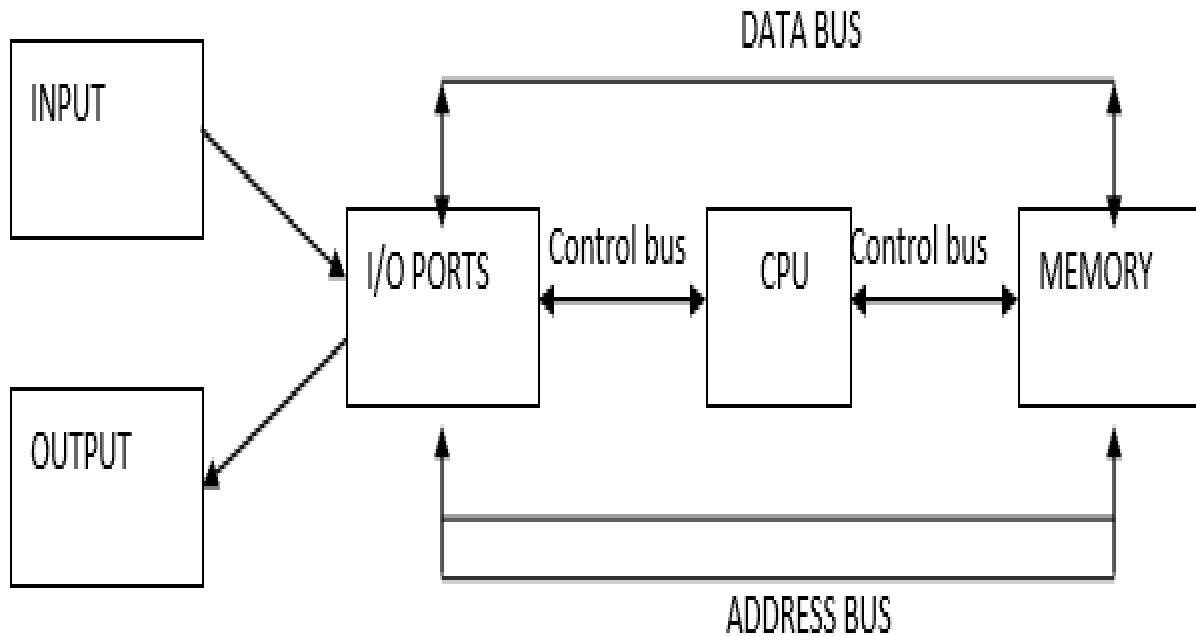


What is Microprocessor?

Processor means a device that processes numbers, specifically binary numbers, 0's and 1's.

Microprocessor is a multipurpose, programmable device that accepts digital data as input, processes it according to instructions stored in its memory, and provides results as output.





History of Microprocessors

1950s

Silicon
Transistor



1
Transistor

1960s

TTL
Quad Gate



16
Transistors

1970s

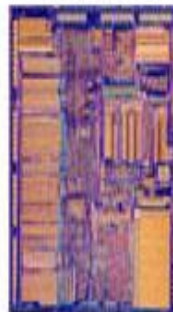
8-bit
Microprocessor



4500
Transistors

1980s

32-bit
Microprocessor



275,000
Transistors

1990s

32-bit
Microprocessor



3,100,000
Transistors

2000s

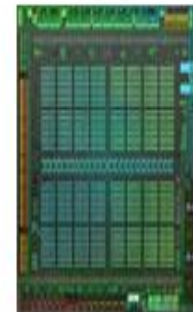
64-bit
Microprocessor



592,000,000
Transistors

2010s

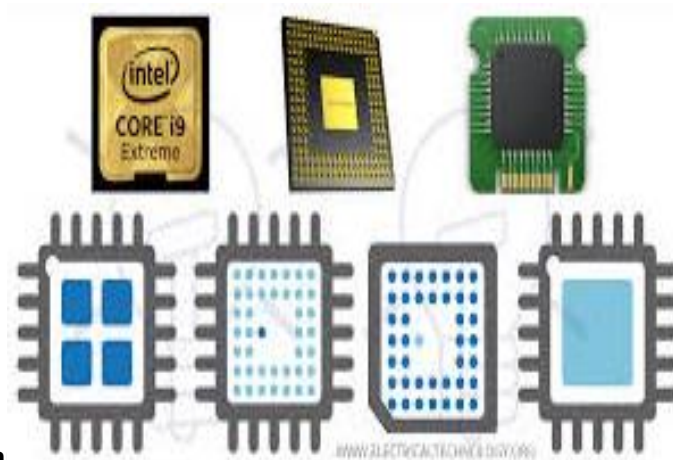
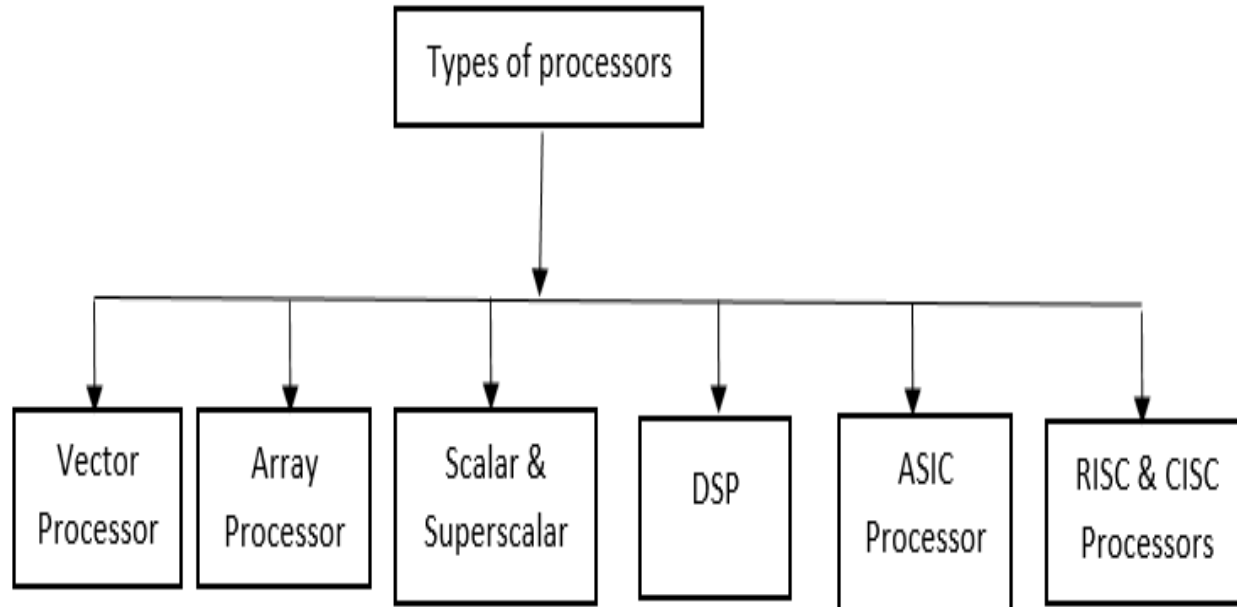
3072-Core
GPU



8,000,000,000
Transistors



Types of Microprocessor?





What is a Microcontroller

A microcontroller (MCU for microcontroller unit) is a small computer on a single integrated circuit (IC) chip.

A microcontroller contains CPUs (processor cores) along with memory and programmable input/output peripherals.

Microcontrollers are embedded inside devices to control the actions and features of a product.

Hence, they can also be referred to as embedded controllers. They run one specific program and are dedicated to a single task



Types of Microcontroller



Atmel AVR



AVR



ATX Mega



ATmega 328P



PIC 16F877A



8051



Arduino



ARM

www.TheEngineeringProjects.com



Applications of Microprocessor & Microcontroller





Applications of Microprocessor & Microcontroller



- In Metering
 - Electricity Meters
 - Gas and Water Meters
 - In Home Display units

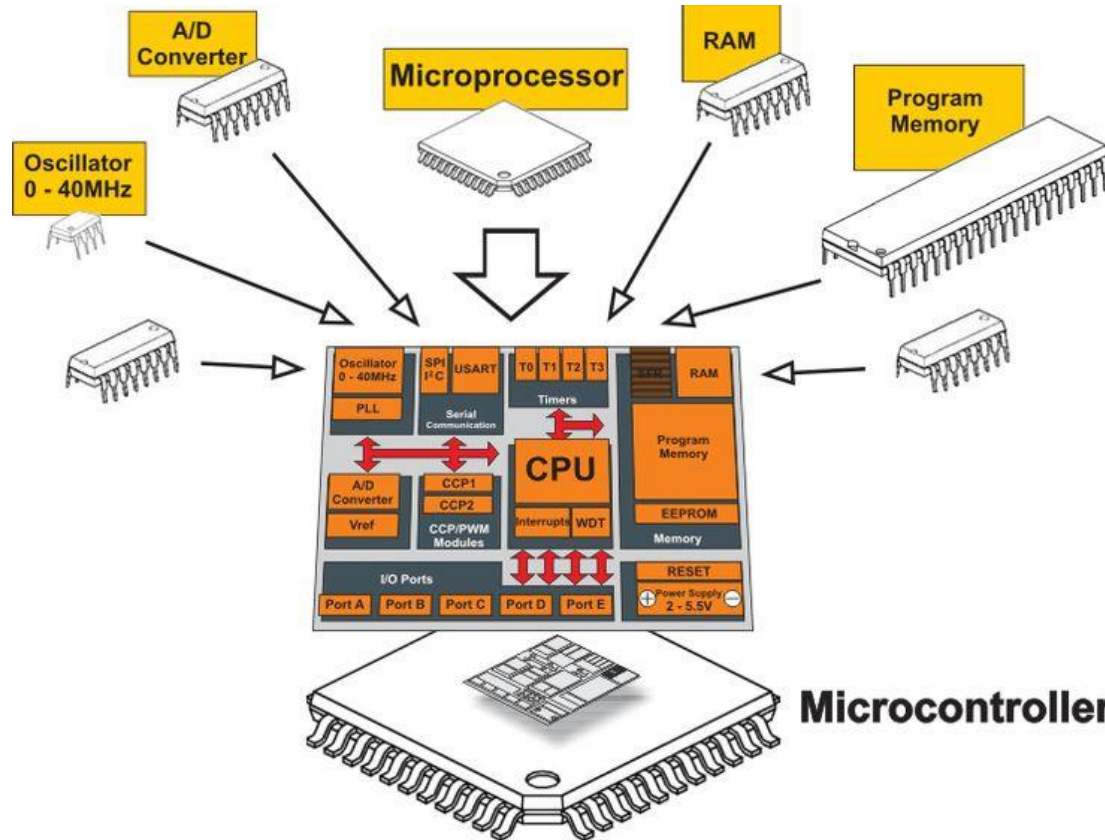
- In Mobile Electronics
 - Mobile Phones & Internet Devices
 - Portable Game Consoles
 - Automotive GPS
 - Cameras
 - Netbooks
 - PDAs

- In Building Automation
 - Fire and Security
 - Comfort and Control
 - Telecare
 - Lighting
 - Industrial Automation

THANK YOU



Difference between Microprocessor & Microcontroller

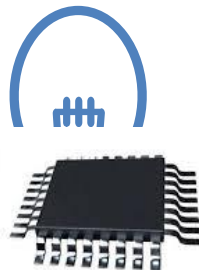


Microcontroller



Microprocessor

VS



Microcontroller

Difference between Microprocessor & Microcontroller

Difference Between Microprocessor and Microcontroller

Microprocessor

1. It contains ALU (Arithmetic Logic Unit), CU (Control Unit), and Registers.
2. No internal Memory.
3. No interfacing circuits, timer and counters.
4. Used for general purpose applications.

Microcontroller

1. It contains ALU (Arithmetic Logic Unit), CU (Control Unit), and Registers.
2. Contain internal Memory..
3. Contain interfacing circuits, timer and counters.
4. Used for specific purpose applications.



Microprocessor

VS



Microcontroller



