



SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

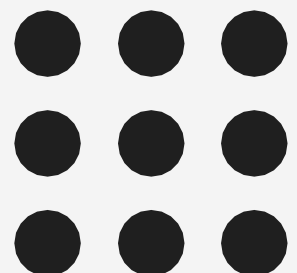
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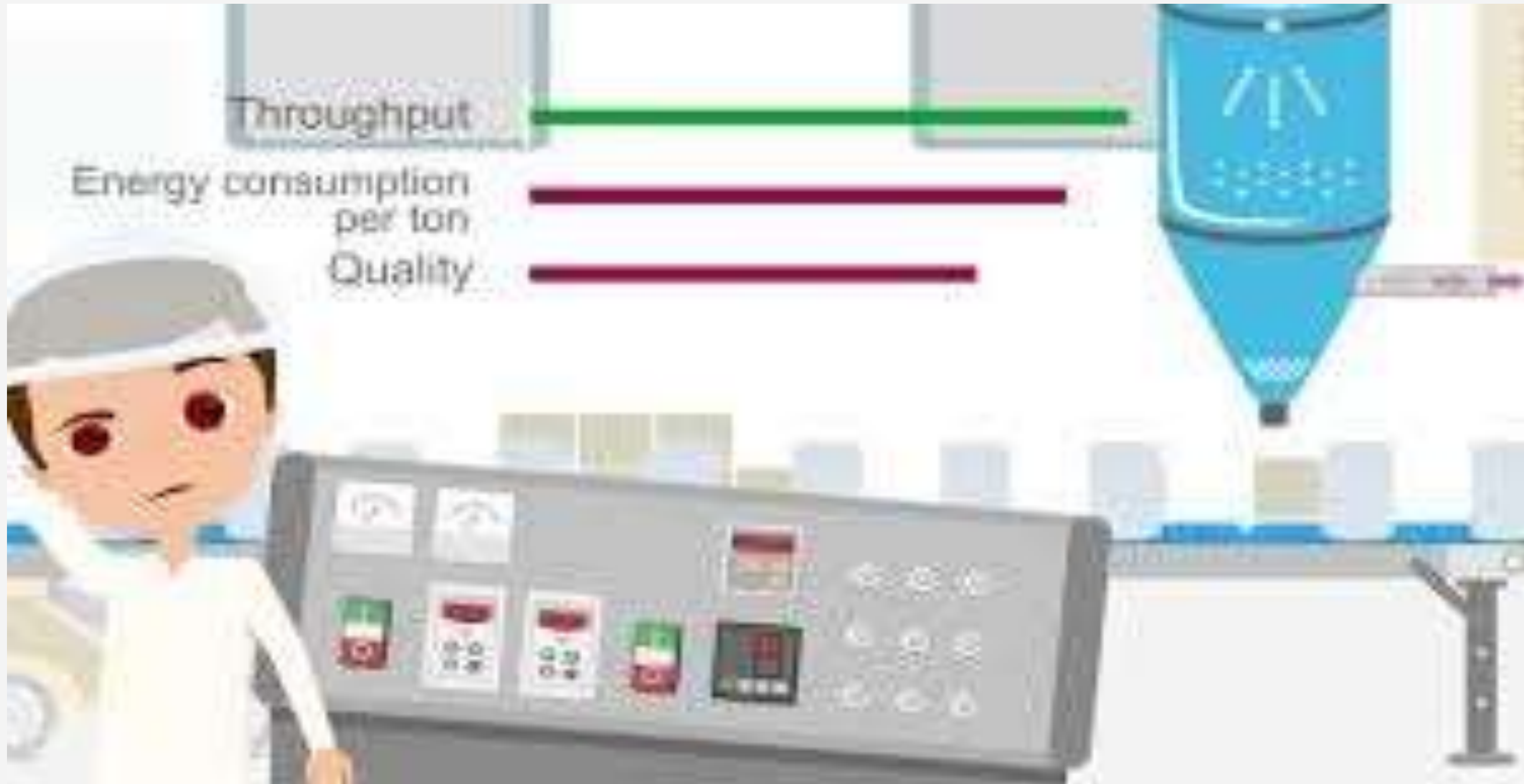
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19IT402 – Microcontroller and Embedded Systems

Unit -1 – Introduction

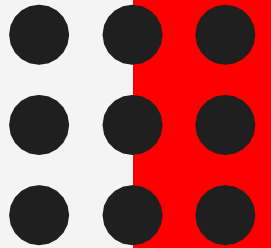


Introduction





What is Microprocessor?

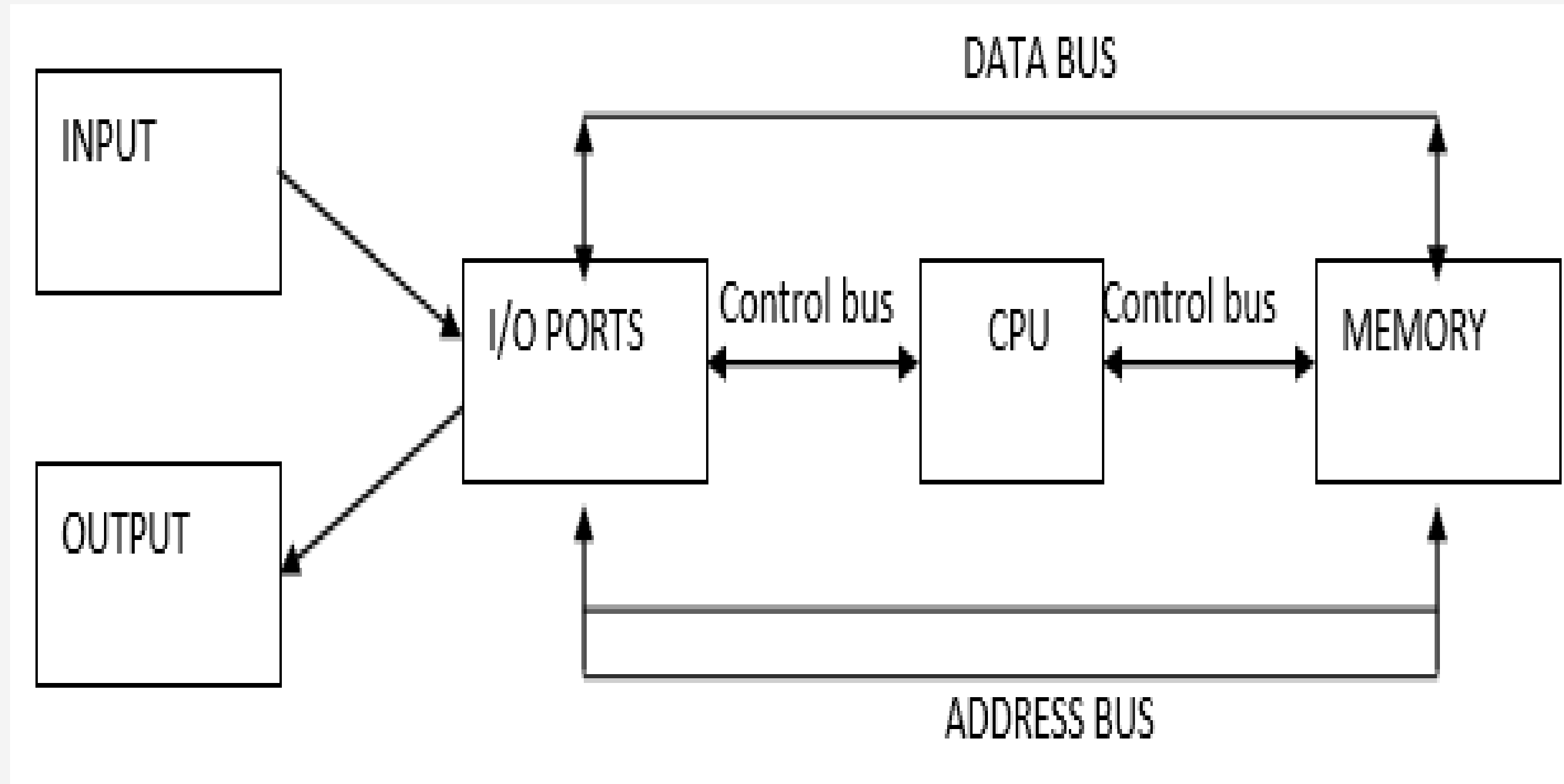


Processor means a device that processes numbers, specifically binary numbers, 0's and 1's.

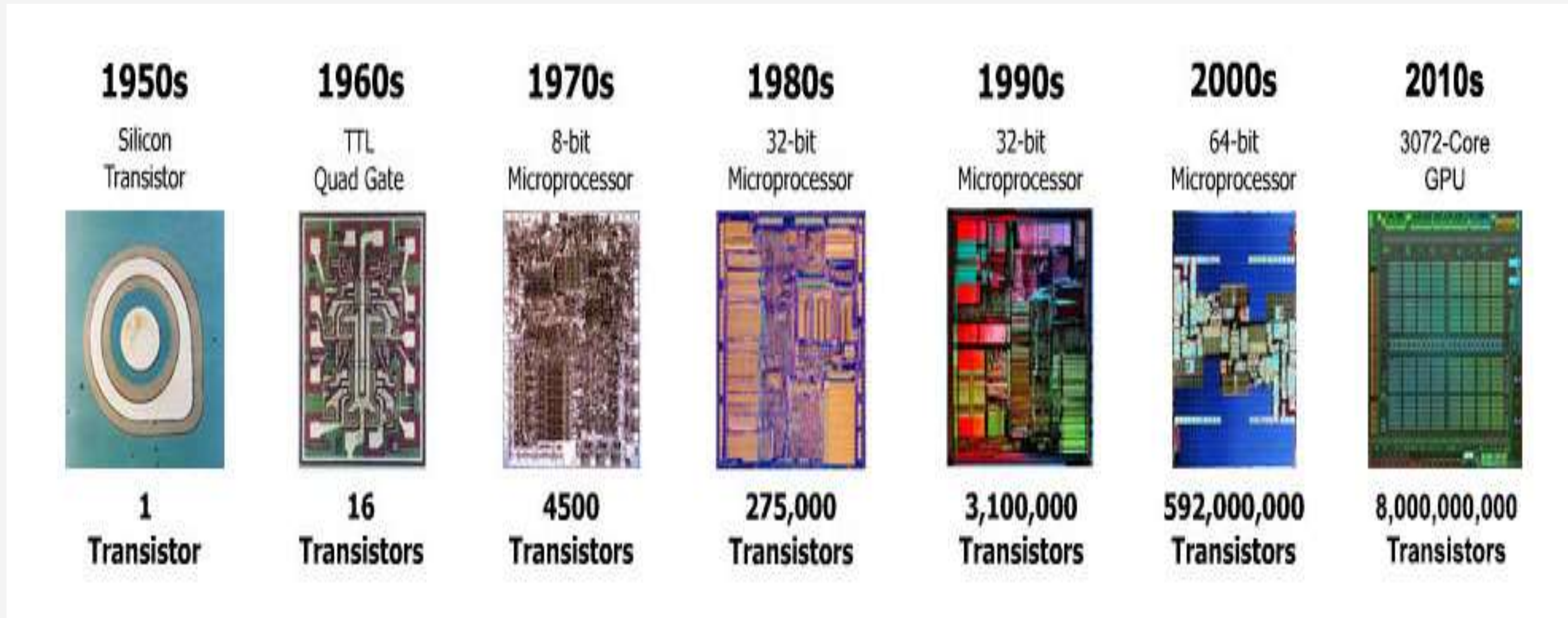
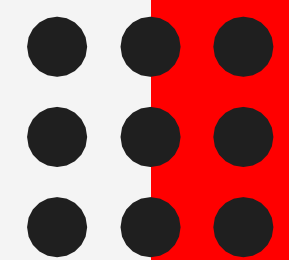
Microprocessor is a multipurpose, programmable device that accepts digital data as input, processes it according to instructions stored in its memory, and provides results as output.



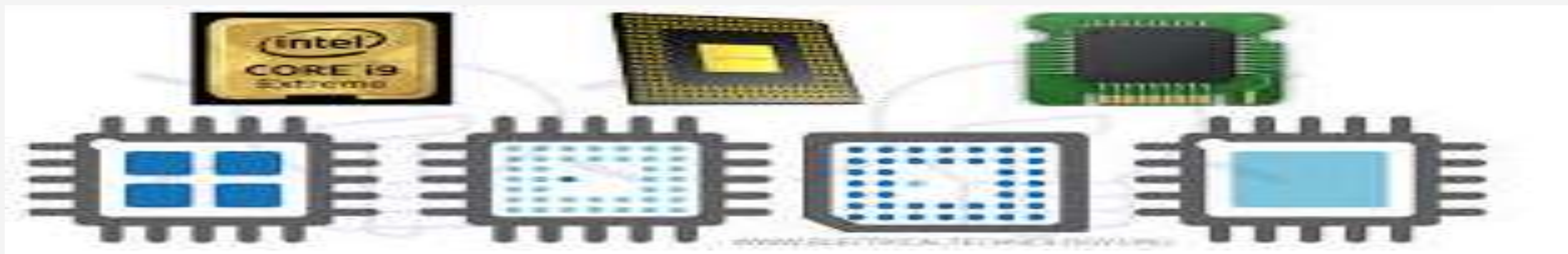
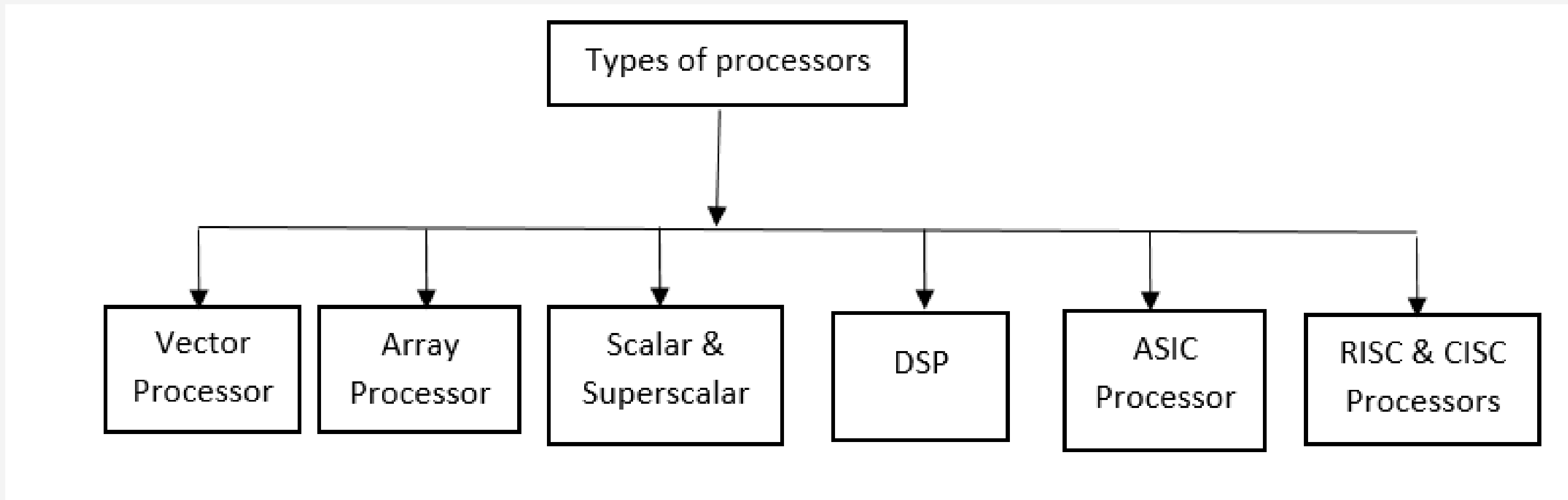
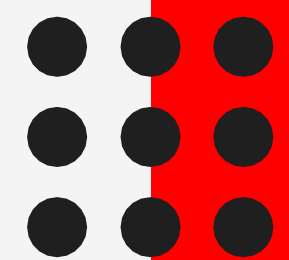
Introduction of Microprocessors



History of Microprocessors

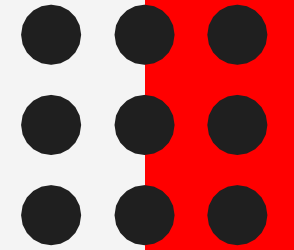


Types of Microprocessor



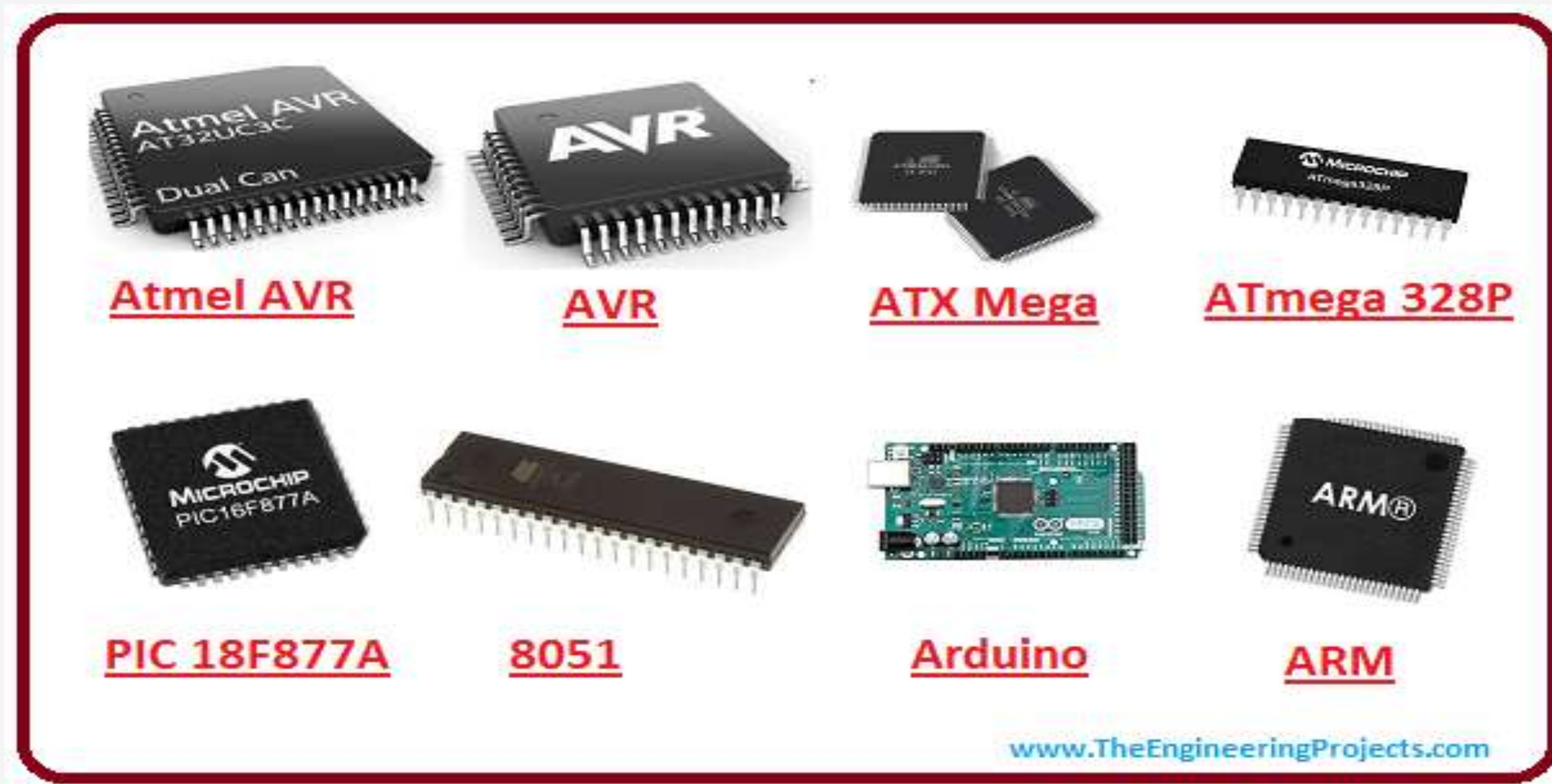
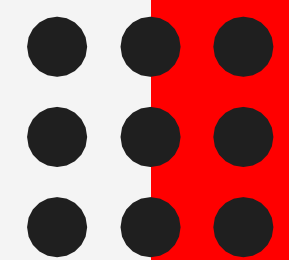


What is a Microcontroller



- 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

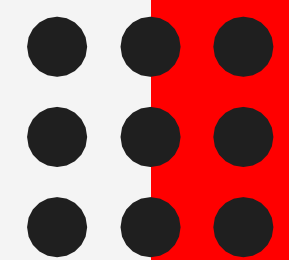


Atmel AVR AVR ATX Mega ATmega 328P

PIC 18F877A 8051 Arduino ARM

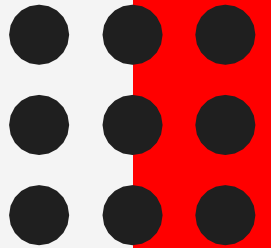
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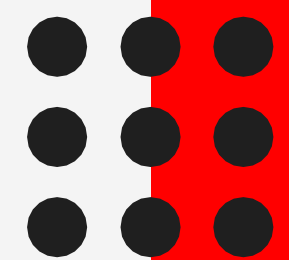
Applications of Microprocessor & Microcontroller



Embedded System

Any sort of device which includes a programmable computer but itself is not intended to be a general-purpose computer





A “short list” of embedded systems

- Anti-lock brakes
- Auto-focus cameras
- Automatic teller machines
- Automatic toll systems
- Automatic transmission
- Avionic systems
- Battery chargers
- Camcorders
- Cell phones
- Cell-phone base stations
- Cordless phones
- Cruise control
- Curbside check-in systems
- Digital cameras
- Disk drives
- Electronic card readers
- Electronic instruments
- Electronic toys/games
- Factory control
- Fax machines
- Fingerprint identifiers
- Home security systems
- Life-support systems
- Medical testing systems

- Modems
- MPEG decoders
- Network cards
- Network switches/routers
- On-board navigation
- Pagers
- Photocopiers
- Point-of-sale systems
- Portable video games
- Printers
- Satellite phones
- Scanners
- Smart ovens/dishwashers
- Speech recognizers
- Stereo systems
- Teleconferencing systems
- Televisions
- Temperature controllers
- Theft tracking systems
- TV set-top boxes
- VCR's, DVD players
- Video game consoles
- Video phones
- Washers and dryers

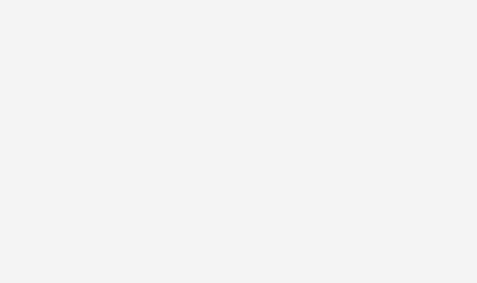




Assessment

Difference between Microprocessor and Microcontroller?





THANK YOU