

# CSE

## Microcontroller Application




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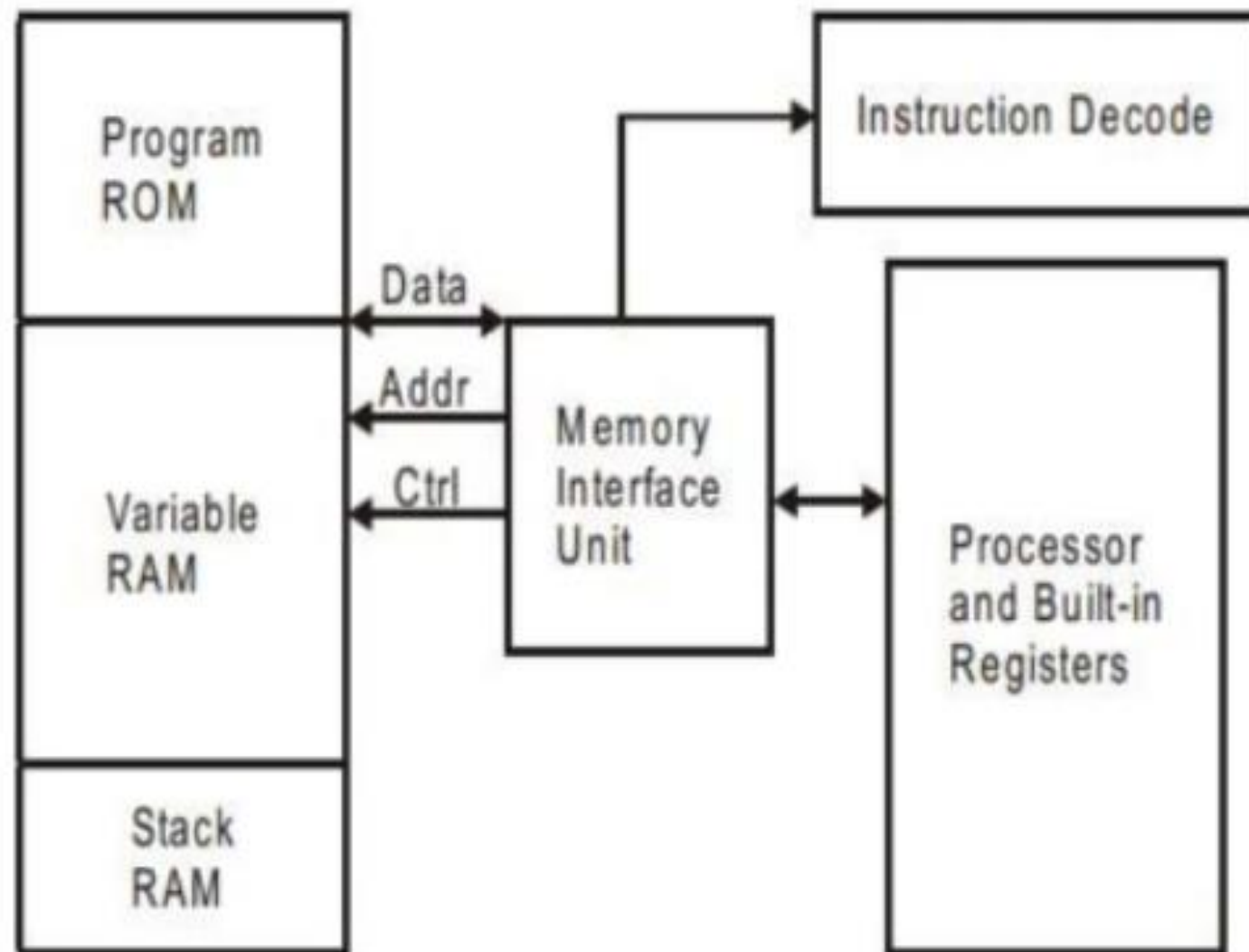
## 4 - ACCORDING TO MEMORY ARCHITECTURE

- ▶ The architectures of microcontrollers differ in the way data and programs are stored and accessed.

### 1. VON-NEUMAN /PRINCETON ARCHITECTURE

- Single data bus that is used to fetch both instructions and data.
  - Program instructions and data are stored in a common main memory.
  - When such a controller addresses main memory, it first fetches an instruction, and then it fetches the data to support the instruction.
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- ❑ Simplifies the microcontroller design because only one memory is accessed.
- ❑ The weakness is that two separate fetches can slow up the controller's operation.
- ❑ Example: Motorola 68HC11.



**Thank You**