@Sree Vishnu Varthini

Day - 13

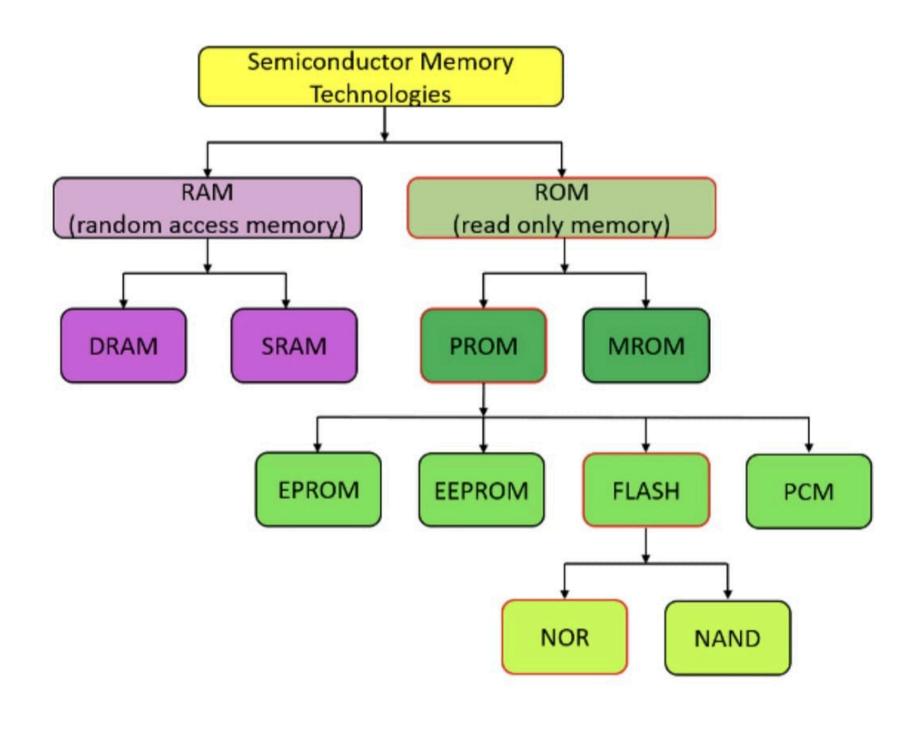
## Embedded Systems Programming

#### READ ONLY MEMORY - ROM

**ROM** (Read-Only Memory) is a non-volatile memory used to store essential data required to operate a system. As the name suggests, it can only be read; data stored in ROM cannot be modified or erased.

#### KEY FEATURES

- Non-volatile: Data remains even when power is off.
- **Permanent storage:** Information stored cannot be modified.
- **Read-only:** We can only access and read the data, not write over it.



#### **\*\* MROM (Masked ROM)**

- Original type of ROM that is permanently programmed during manufacturing.
- Cannot be altered after production.

#### **EPROM (Erasable Programmable ROM)**

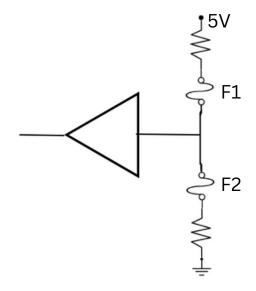
- Type of ROM that can be erased and reprogrammed.
- Data is erased using ultraviolet (UV) light.

### **EEPROM (Electrically Erasable Programmable ROM)**

- Allows erasing and reprogramming of individual memory locations.
- Can be erased electrically, without UV light.

#### **PROM (Programmable ROM)**

- One-time programmable ROM.
- Can be programmed once after manufacturing.



- To set the enable signal to 0: Remove Fuse 1. This will permanently disable the enable signal.
- To set the enable signal to 1: Remove Fuse 2. This will permanently enable the signal.

Once a fuse is removed, the corresponding value cannot be changed again.

#### **Flash ROM**

- Type of EEPROM that allows block-level erasure and reprogramming.
- Entire blocks can be erased at once.

#### **NOR Flash**

• A type of Flash ROM with random access capabilities.

#### **X** NAND Flash

• Type of Flash memory designed for sequential access.

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