Bit

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These slides introduce the digital Bit

Bit

- Bit - Physical interpretation
  - Represents the value on a wire (or pin) in a digital system
  - The value is associated with a voltage
    - A physical value close to Gnd represents a digital low/0/False
    - A physical value close to V_{DD} (the supply voltage) represents a digital high/1/True

System V_{DD}	5V	3.3V	1.8V
Physical 0	0V – 0.5V	0V – 0.3V	0V – 0.2V
Physical 1	4V – 5V	2.8V – 3.3V	1.5V – 1.8V

Simplified representation – more in your embedded systems and logic classes

Bit

- Bit - Logical interpretation
  - The smallest logical quantity in a digital system
  - Can have a logical value of 0 or 1
    - It may be unknown to us, but it is always either 0 or 1