Different between Microprocessor and Microcontroller:

Feature	Microprocessor	Microcontroller
CPU	Contains only a processing unit which is quite powerful in terms of computing	Contains not only a processing unit but a small amount of memory (ROM, RAM, etc.), a few I/O ports for peripherals, timer, etc.
Memory	Requires extra hardware chips such as memory (RAM), peripheral boards, system bus, etc.	Contains a small amount of memory (ROM, RAM, etc.)
I/O Ports	Requires extra hardware chips such as peripheral boards	Contains a few I/O ports for peripherals
Cost	More expensive than microcontrollers	Cheaper than microprocessors
Power Consumption	High power consumption	Low power consumption
Size	Larger in size	Smaller in size
Usage	Used for general-purpose computing devices such as desktop computers and laptops	Used for embedded systems such as home appliances like washing machines and ovens

What is an embedded system?

An embedded system is a computer system that has a dedicated function within a larger mechanical or electronic system . It is designed to perform specific tasks and is often part of a complete device that includes electrical or electronic hardware and mechanical parts . Embedded systems are different from general-purpose computers, which are engineered to manage a wide range of processing tasks .

Embedded systems are used in many devices that we use every day, such as home appliances like washing machines and ovens, industrial assembly lines, robots, transport vehicles, traffic light controllers, and medical imaging systems . They can range in size from portable personal devices such as digital watches and MP3 players to bigger machines like avionics in aircraft and in spacecraft . Often they constitute subsystems of other machines like factories, pipelines, and electrical grids that rely on multiple embedded systems networked together .

Attiny85 Microcontroller:

Pinout ATtiny25/45/85

PDIP/SOIC/TSSOP

(PCINT5/$\overline{\text{RESET}}$/ADC0/dW) PB5	1	8	VCC
(PCINT3/XTAL1/CLKI/$\overline{\text{OC1B}}$/ADC3) PB3	2	7	PB2 (SCK/USCK/SCL/ADC1/T0/INT0/PCINT2)
(PCINT4/XTAL2/CLKO/OC1B/ADC2) PB4	3	6	PB1 (MISO/DO/AIN1/OC0B/OC1A/PCINT1)
GND	4	5	PB0 (MOSI/DI/SDA/AIN0/OC0A/$\overline{\text{OC1A}}$/AREF/PCINT0)

NOTE: TSSOP only for ATtiny45/V