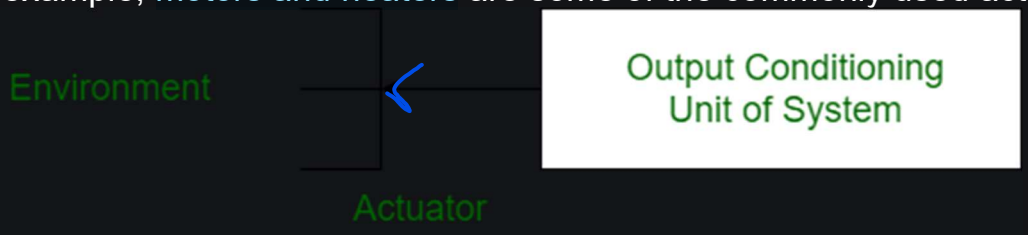
1. Sensor:
Sensor is a device used for the conversion of physical events or characteristics into the electrical signals. This is a hardware device that takes the input from environment and gives to the system by converting it.
For example, a thermometer takes the temperature as physical characteristic and then converts it into electrical signals for the system.

2. Actuator:
Actuator is a device that converts the electrical signals into the physical events or characteristics. It takes the input from the system and gives output to the environment.
For example, motors and heaters are some of the commonly used actuators.



Difference between Sensor and Actuator :

SENSOR	ACTUATOR
It converts physical characteristics into electrical signals.	It converts electrical signals into physical characteristics.
It takes input from environment.	It takes input from output conditioning unit of system.
It gives output to input conditioning unit of system.	It gives output to environment.
Sensor generated electrical signals.	Actuator generates heat or motion.
It is placed at input port of the system.	It is placed at output port of the system.
It is used to measure the physical quantity.	It is used to measure the continuous and discrete process parameters.

SENSOR	ACTUATOR
It gives information to the system about environment.	It accepts command to perform a function.
Example: Photo-voltaic cell which converts light energy into electrical energy.	Example: Stepper motor where electrical energy drives the motor.