

Input

an input is something entered into a machine or other system, the act of entering data or other information.

An input device is a piece of hardware that is used to enter data into a computer



Process

In computing, a process is the instance of a computer program that is being executed by one or many threads. It contains the program code and its activity.

A processor is a device in a computer which performs operations on input sources



Output

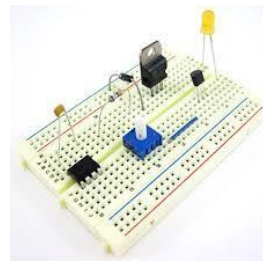
an output is information that is sent of the computer after it has been processed.

An output devices is a piece of hardware which communicates this information.

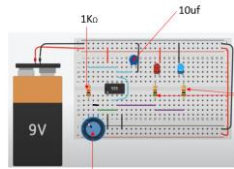


Circuit Prototyping

A breadboard allows for easy and quick creation of temporary electronic circuits or to carry out experiments with circuit design. Breadboards enable developers to easily connect components or wires thanks to the rows and columns of internally connected spring clips underneath the perforated plastic enclosure.



Make sure the values are as follows:-



What happens when you turn the potentiometer?

Circuits can also be prototyped using computer software. (Such as TinkerCAD) This allows for full models to be checked to see if they work before any manufacturing has taken place.

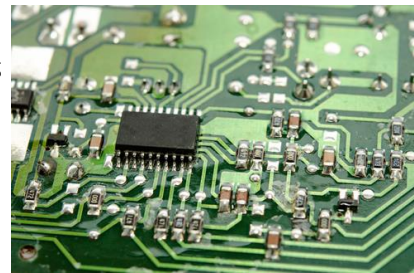
Year 9 Knowledge organiser

Systems and Control



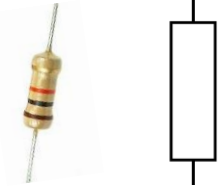
PCB Manufacture

Electronic circuits are normally manufactured through the use of PCBs (Printed Circuit Boards). The boards are made from glass reinforced plastic with copper tracks in the place of wires. Components are fixed in position by drilling holes through the board, locating the components and then soldering them in place. The copper tracks link the components together forming a circuit.

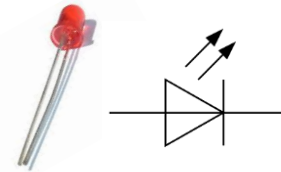


Electronic Components

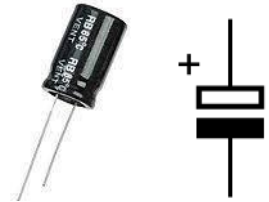
A **resistor** is an electrical component that limits or regulates the flow of electrical current in an electronic circuit



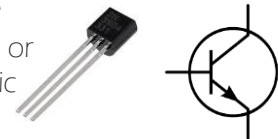
A **light-emitting diode (LED)** is a semiconductor light source that emits light when current flows through it.



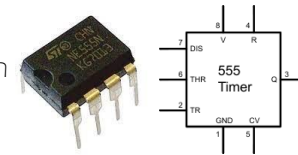
A **capacitor**, device for storing electrical energy, consisting of two conductors close proximity and insulated from each other.



a **transistor** is a miniature device that is used to control or regulate the flow of electronic signals



An **integrated circuit** is a set of electronic circuits on one small flat piece (or "chip") of semiconductor material.



An **SPST switch** embraces a basic "ON/OFF" control of a single circuit and consists of two terminals that serve as electrical connection points.

