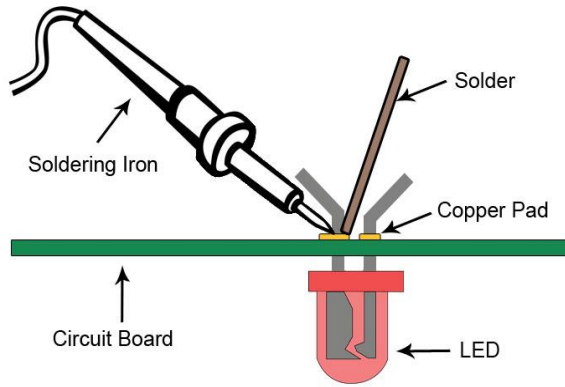


Knowledge Organiser – Electronics and Systems

Soldering



Solder



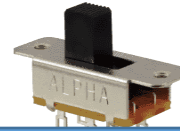
PCB – Printed Circuit Board



Integrated chip



LED – Light Emitting Diode



Switch

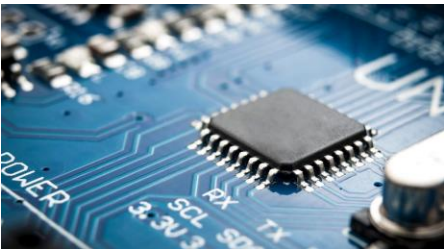


Resistors



Capacitors

Microprocessors



Microprocessors are the main processor inside a computer and are designed to be programmed to perform different functions. Used in a lot of products from car keys to the car itself, and from electronic toys to mobile phones.

Integrated circuits (ICs)



Integrated circuits are tiny chips that contain resistors, capacitors and transistors, which work together to complete the process they have been designed for, e.g. a timer, counter/ microcontroller.

Microcontrollers

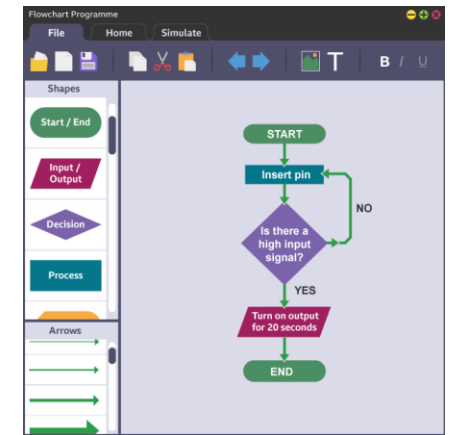
A microcontroller is an example of a single board computer (SBC) and is manufactured as an integrated circuit (IC). It can be programmed to perform different processing functions.



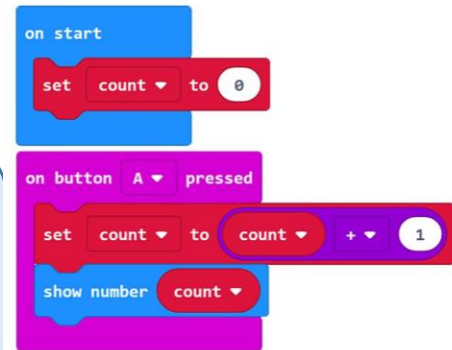
A microprocessor is an integrated circuit that contains no memory. A microcontroller has the ability to store information.



Microcontrollers come in different sizes with varying numbers of pins for the connection of input and output devices - for example, 8 pin, 14 pin and 18 pin. A programmable interface controller (PIC) is an example of a microcontroller that is widely used.



Example of a flowchart program



block-based programming editors



Downloading a program
This means the microcontroller does not have to be removed from the circuit to be programmed. For some systems, the chip may have to be taken from the circuit and placed in a special downloader.