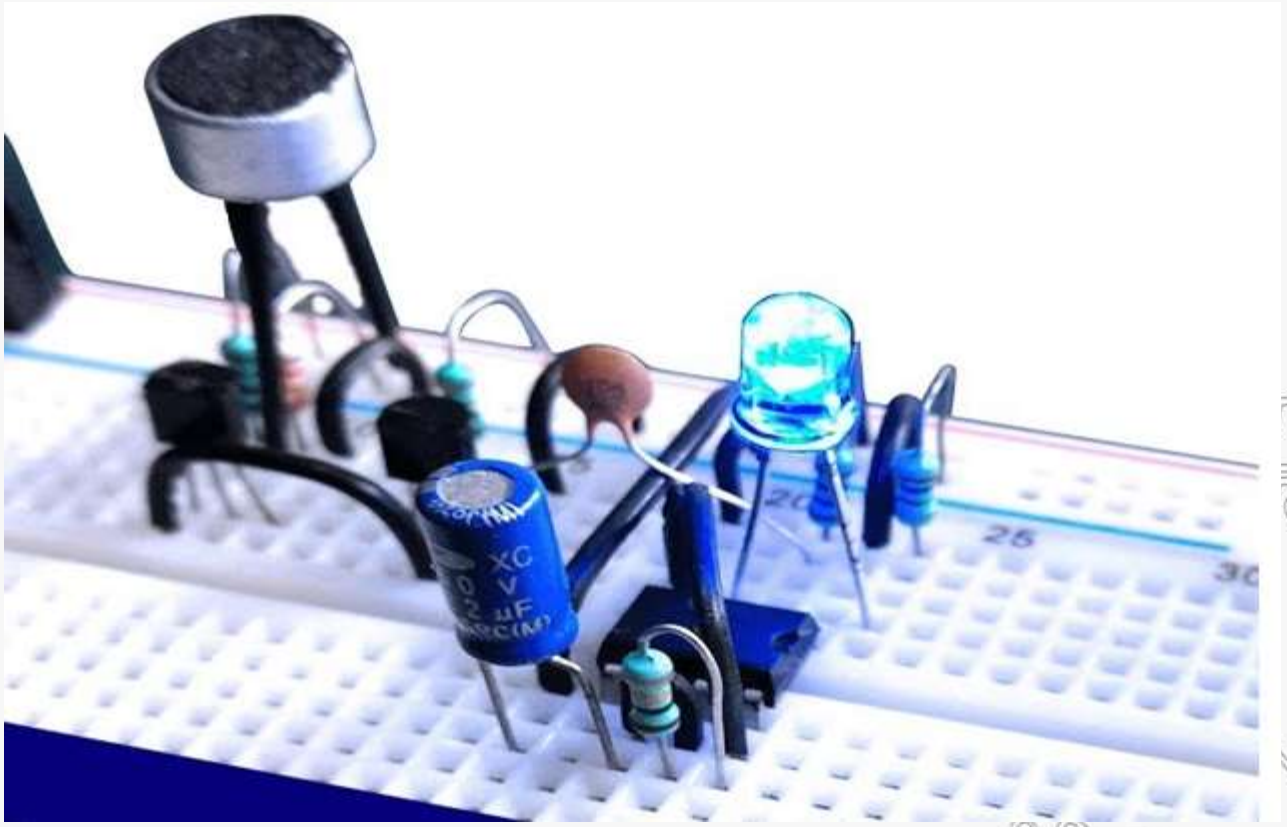
ABLEDUCATION™
ACTIVITY BASED LEARNING

Clap Switch Project

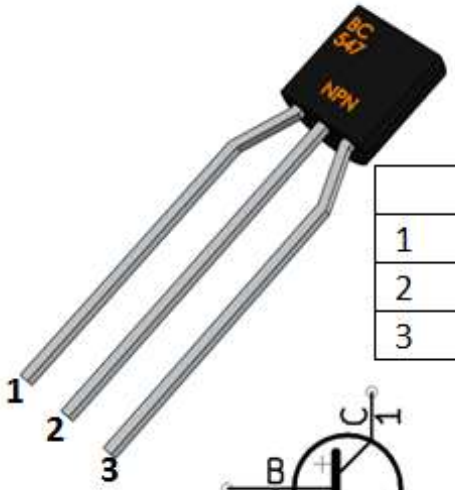


About project

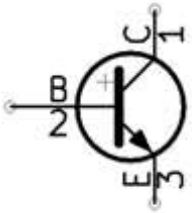
- Clap switch is an interesting hobby circuit which turns on the lights with a clap sound. Although its name is “Clap switch”, but it can be turned ON by any sound of approximately same pitch of Clap sound.
- The main component of this clap switch circuit is the Electric Condenser Mic, which has been used as a sound sensor. Condenser Mic basically converts sound energy into electrical energy that in turns used to trigger 555 timer IC through a Transistor.

BC547

BC547 is a NPN transistor hence the collector and emitter will be left open (Reverse biased) when the base pin is held at ground and will be closed (Forward biased) when a signal is provided to base pin.



BC-547	
1	Collector
2	Base
3	Emitter



Microphone

- A **microphone** is a device that captures audio by converting sound waves into an electrical signal. This signal can be amplified as an analog signal or may be converted to a digital signal, which can be processed by a computer or other digital audio device.
- Vibration of the diaphragm causes surrounding components of the **microphone** to vibrate. Conversion of these vibrations is delivered as an audible signal.

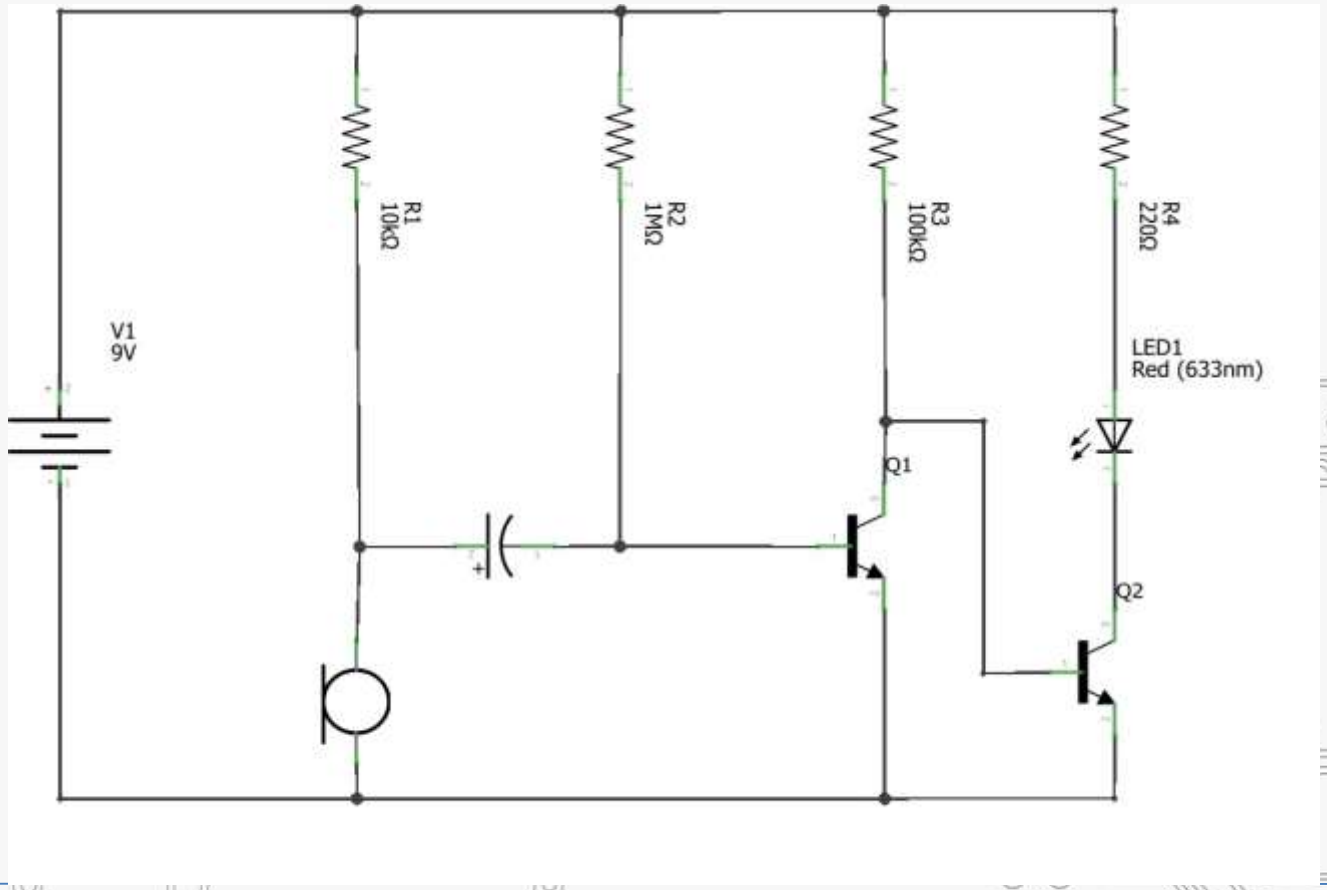
Working of project

- Initially the transistor is in OFF state, now when we produce some sound near condenser mic, this sound will be converted into electrical energy and it will raise the potential at the Base, which will turn the Transistor ON.
- As soon as the transistor becomes ON, LED will turn ON. We have connected the LED through a 220ohm resistor.
- After some time LED will be turned OFF automatically.

Components Required

- One Condenser Mic
- One BC547 Transistor
- One 100k, one 1M, one 10k and one 220 ohm Resistors
- One 100uF Capacitor
- One LED
- One Breadboard
- One 9V Battery
- One Battery Cap
- Connecting Wires

Connection Diagram



Project Link : https://youtu.be/LKSbp66waIA