Automatic Night Light

About Project

It senses the light intensity from surroundings and find whether its day or night. And it automatically turns ON when the surrounding is dark and it turns OFF when it receives light from surroundings. A sensor called **LDR,** which is used to detect the light intensity.

Light Dependent Resistor [LDR] Sensor

An **LDR** is a component that has a (variable) resistance that changes with the light intensity that falls upon it. This allows them to be used in light **sensing** circuits. A Light Dependent **Resistor** (**LDR**) or a photo **resistor** is a device whose resistivity is a **function** of the incident electromagnetic radiation. Hence, they are light sensitive devices. They are also called as photo conductors, photo conductive cells or simply photocells.
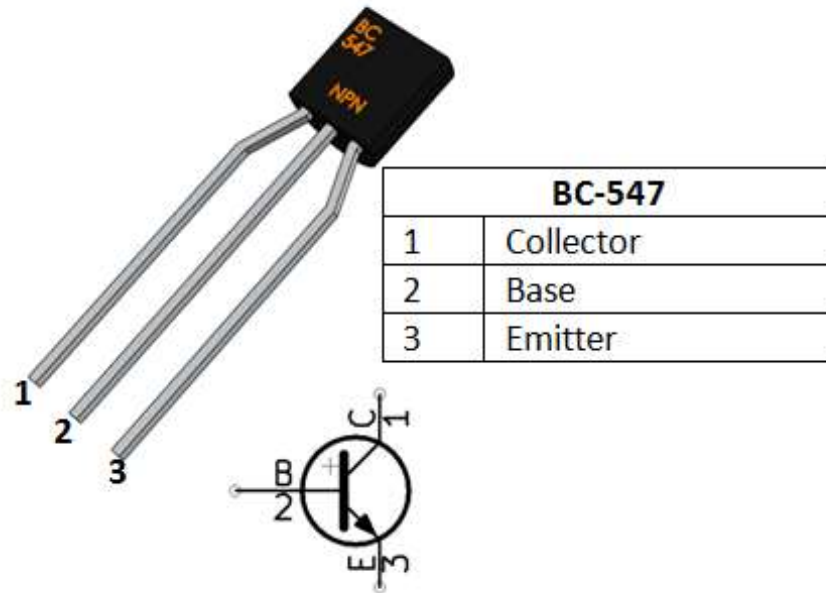
Working of LDR sensor

- We will use a LDR and a resistor together in series. An LDR is simply a device that changes resistance based on ambient light. The brighter the light, the lower the resistance, the dimmer the light, the higher the resistance.

- When there is no light , LDR will offer high resistance and less current flows through the resistor and voltage across resistor will be less near to GND.

- When light falls on LDR, its resistance decreases and current flow through it increases. Then voltage across the resistor increases and LED gets a HIGH signal.
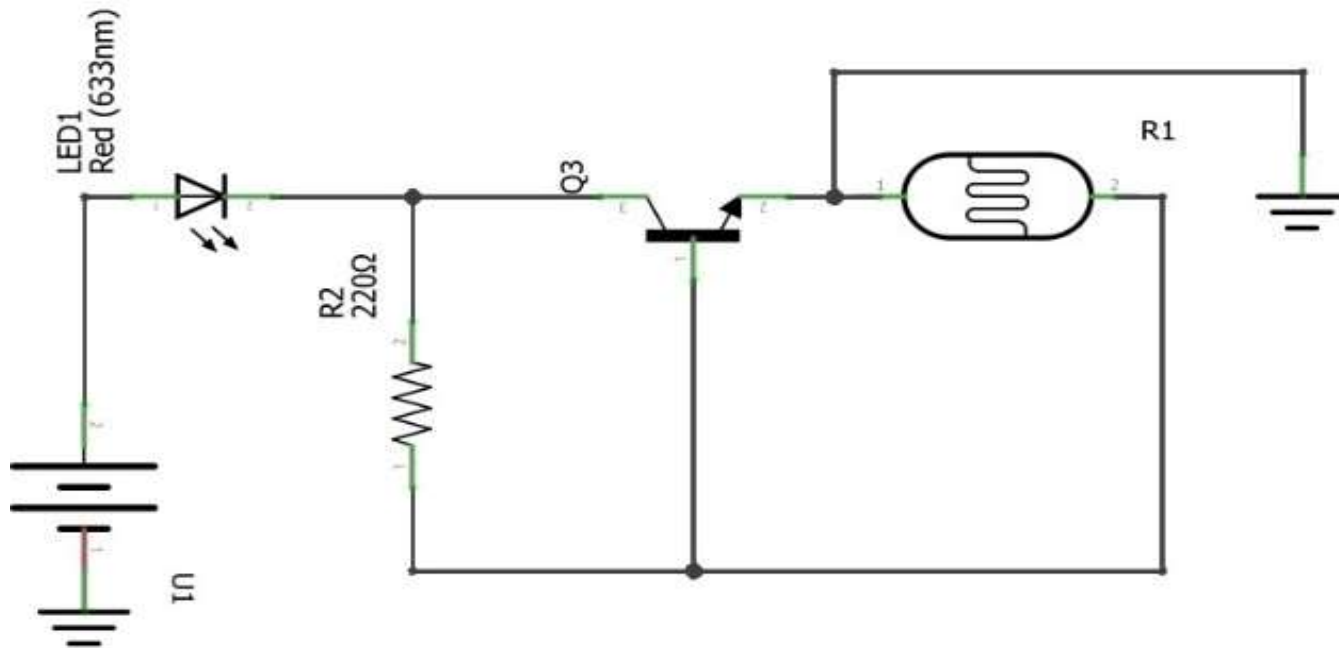
BC547

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

Components Required

- Zero PCB

- Soldering machine

- Soldering wire

- LDR [1]

- BC547 Transistor [1]

- LED [1]

- Resistor220ohm*1

- Battery 9v

- Battery connector

Connection Diagram

Future Scope

Automatic street light system have the various advantages. These makes the work easier so you don't have require the labor force because as the name indicate it is **automatic**. These are reliable **lights** for streets and effective one. Whenever you want these can be converted from auto to manual mode easily.

Project Link : https://youtu.be/rTD9n20815M