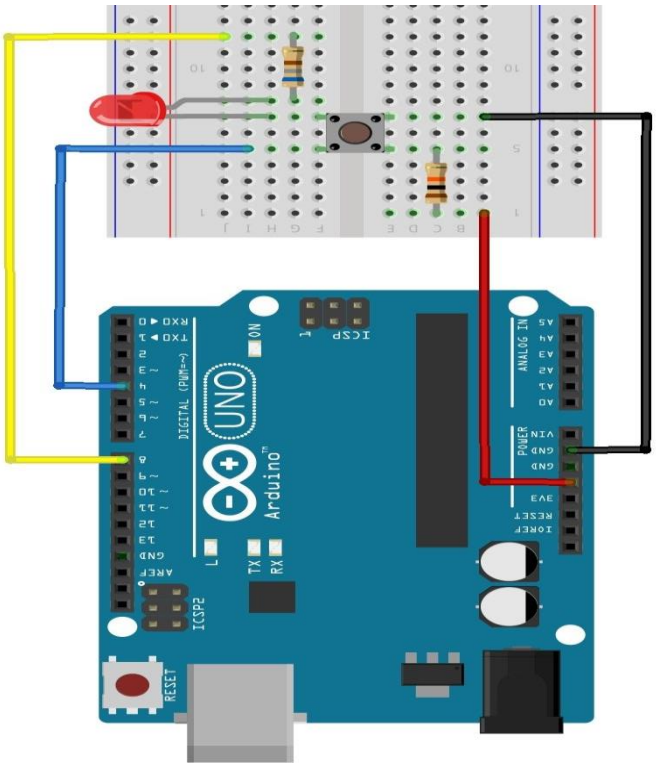


Blink LED Using Switch

Experiment:- 3

ABSTRACT

A push-button switch and an LED are connected to Arduino Uno When we press the switch, LED will glow for 3 seconds. A pin is configured as Input Pin to connect switch and another pin is configured as Output Pin to connect LED.

Ritul Singh

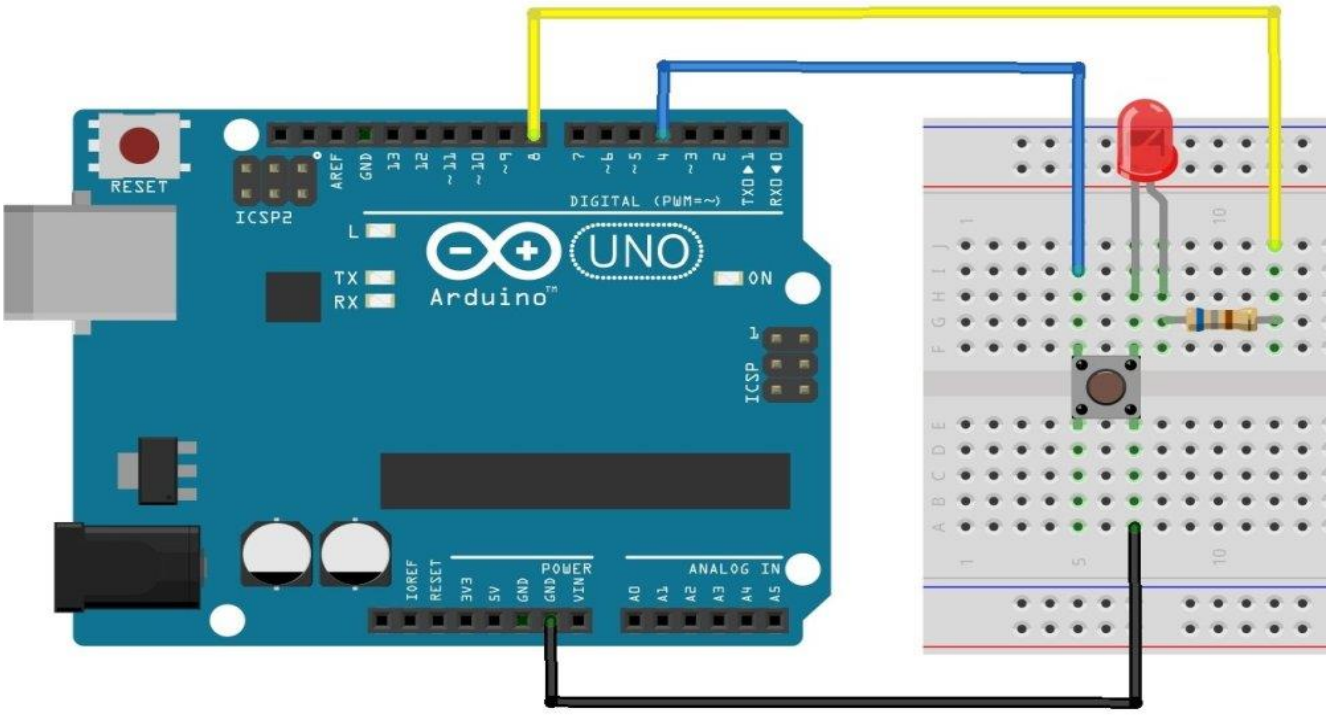
ROLL NO: 19BCG1011

Stream: CSE(G&G) GROUP: A

University: CHANDIGARH UNIVERSITY

Experiment:- 3 (Blink LED Using Switch)

Circuit Diagram:



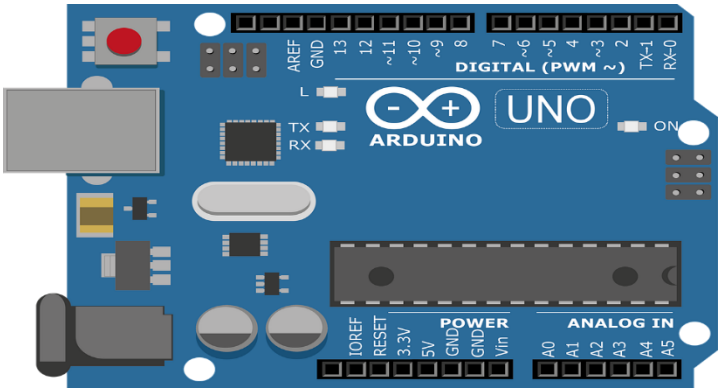
Theory:

CONCEPT USED:

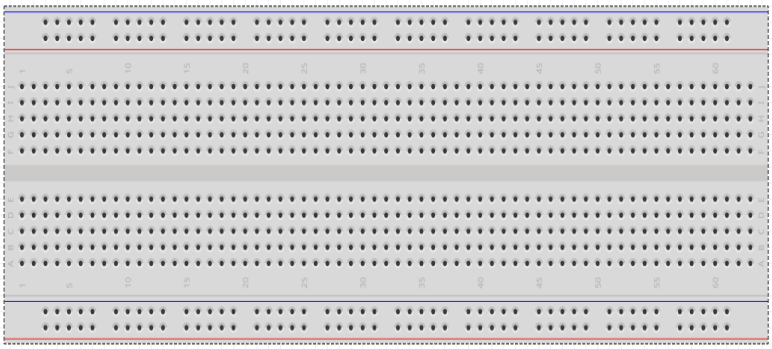
I. The LED has one p junction and n junction inside it, p is longer while n is shorter.
II. The breadboard has a network of connections inside it.
III. Switch regulates the power when it is high means close and low means open.

Hardware Required

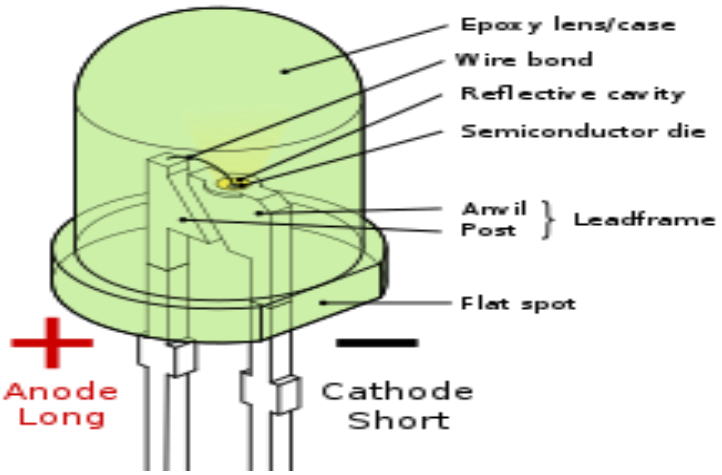
I. Arduino



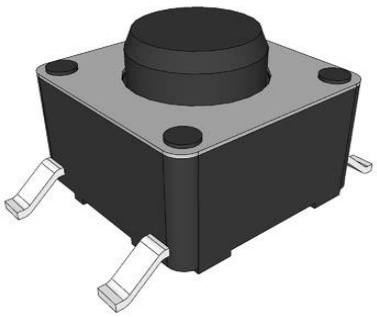
II. Breadboard



III. Light Emitting Diode (LED)



IV. Push Button



LEARNING:

I. I've learned about the connection patterns in the Breadboard & how to utilize them to make it work with an Arduino.
II. How to connect switch in the circuit and where to connect.
III. The voltage of Arduino is 5V.
IV. Always in-circuit ground should have the least resistance.
V. How to control Arduino and its coding?

OBSERVATION:

I. Blinking of an LED.
II. If pin 13 is low means switch is open.
III. If pin 13 is high means switch is closed.
IV. Relation between software and hardware.
V. When we pass an electric signal to the Arduino through our code the LED blinks accordingly.

PROBLEMS & TROUBLESHOOTING:

The problems faced by me while doing this task are:

I. The bulb gets fused when connected in the circuit
II. The connection of switch is wrong.

III. The Arduino wasn't working at the beginning due to some library update issues.
IV. To select the right port and type of Arduino.
V. To check the connections according to the codes.
VI. To check the flow of current in the circuit.

PRECAUTIONS:

I. Handle tools carefully.
II. Wear gloves.
III. Do not connect Arduino till the circuit is complete.
IV. The two pins of the LED should be connected at their appropriate point i.e., the anode should be connected to the positive pin and the cathode should be connected to the ground.

LEARNING OUTCOMES:

I. Use of ground and resistance in the circuit.
II. How to connect switch and use of a switch in circuit?
III. Resistance must be of 10-kilo ohm not less than that.
IV. The switch should be connected correctly in the circuit.
V. Used in project works.

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