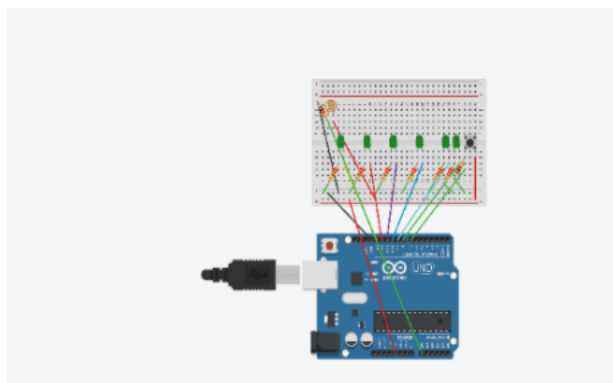


Exp. 2: Design automatic led Diwali lights(consisting of 6 leds) such that it only works during night and can generate two patterns which can be toggled with switch. A. Pattern 1-led blinks with a freq. of 500 msec. B. Pattern 2-led blinks with a freq. of 1 sec.

Circuit Diagram:



Theory:-

Concept Used:

- In Breadboard, the rows on top and bottom are connected in series whereas in middle the connections in columnwise.
- In arduino when Code is passed , it sends signals to LED connected in form of 0 & 1; i.e. when LED is to be switched off '0' is passed else '1' is passed.
- The positive part is connected to digital pins and negative part is connected to ground(GND).
- Switch is used for toggling.

Learning & Observations:

- I learned how to connect hardware and software.
- I learned how switch can be used for toggling between patterns.
- I observed that the specific LEDs light up at

specific times.

Problems & Troubleshooting:

- There was problem while uploading code to Arduino , as the port selected was incorrect hence, to solve it. I change the port.
- Some LEDs was not glowing , so I had to replace it.
- The LEDs were not glowing as expected due to some error in code, so the code was edited.

Precautions:

- Arduino Board should be kept at dry place.
- Correct Board/Port is to be selected.
- All connections should be tight.
- The positive side of LED should be connected to

digital pin and negative to ground.

- Resistor of appropriate value should be used.
- Digital and analog pins should be selected according to the use.

Learning Outcomes:

- How to make proper connection using LEDs and wires.
- Understand the logic how to make LEDs blink in a certain pattern.