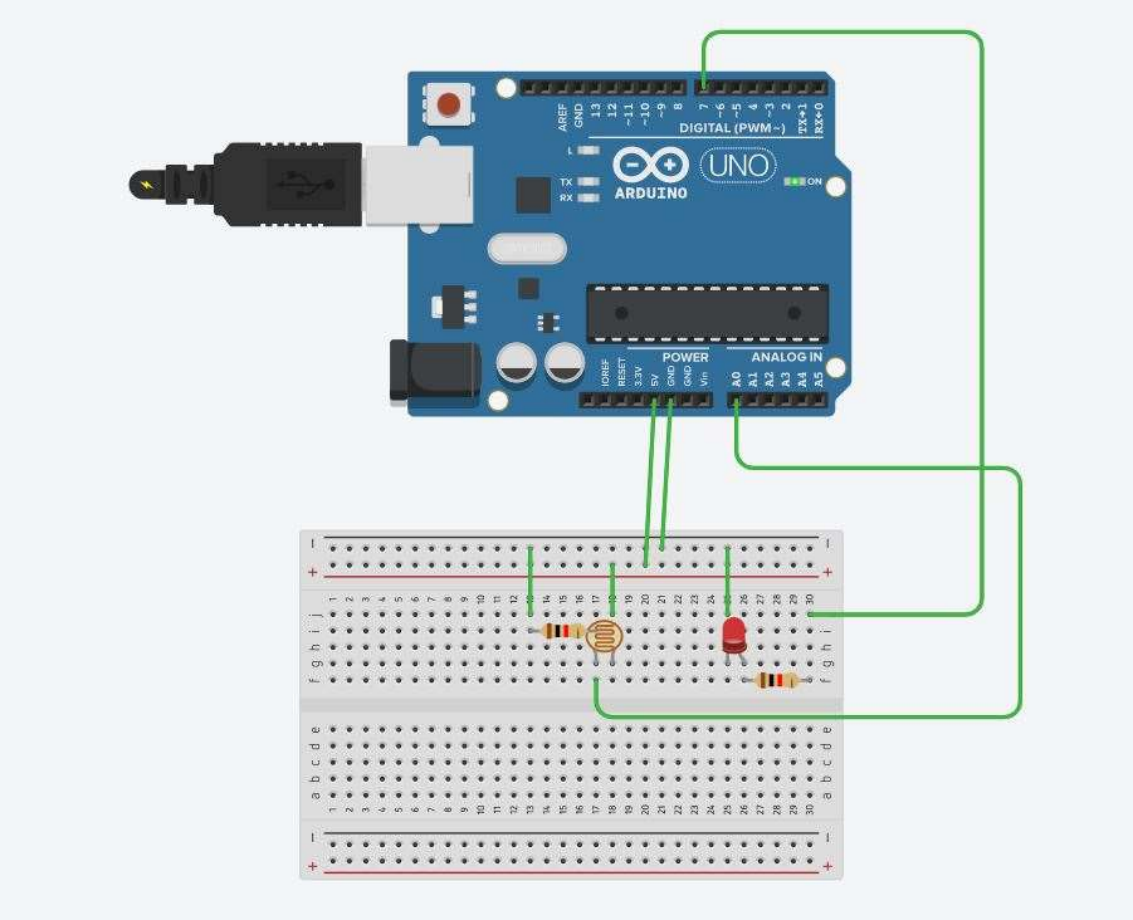
EXP 6:

Circuit Diagram:



THEORY:

Concept Used:

Various Concepts are used in this exp as listed :

1. How Photoresistor work.
2. LED.
3. Connection with Arduino Uno.
4. Analog pins of Arduino Uno.

As per the circuit diagram, we have made a voltage divider circuit using LDR and 10k resistor. The voltage divider output is feed to the analog pin of the Arduino.

The analog Pin senses the voltage and gives some analog value to Arduino. The analog value changes according to the resistance of LDR.

So, as the light falls on the LDR the resistance of it get decreased and hence the voltage value increase.

Intensity of light ↓ - Resistance↑ - Voltage at analog pin↓ - Light turns ON

LEARNING AND OBSERVATIONS:

In this exp we learnt about:

1. New command that is analogRead().
2. We learnt about Light Dependent Resistor.

Observations:

1. If we change the value in Serial.begin command the it change the rate of data.
2. AnalogRead is used to read the analog data.
3. If the light intensity is less then 300 then LED will glow otherwise it won't glow.
4. If we change the value of delay then the time for which the LED glow is changed.

PROBLEMS AND TROUBLESHOOTING:

1. Improper connections.
2. Mistake in code.
3. Syntax error.

PRECAUTIONS:

1. While installing led's in bread board we should take care whether the 'n' terminals of LDR is connected or not.
2. Pin no. of Arduino through which LED and LDR is connected should be same as in the code.

LEARNING OUTCOMES:

1. Applications of Light Dependent Resistor.
2. We learn about the intensity.
3. We get to know about how LDR works with the Arduino UNO.