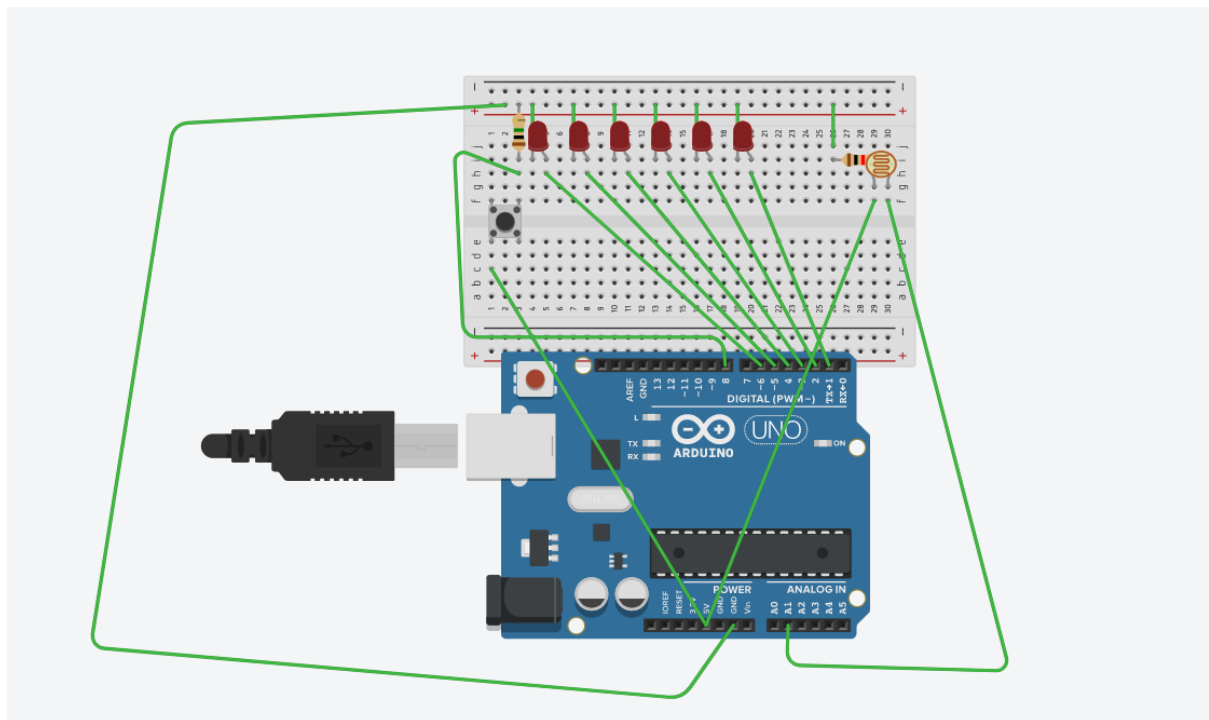


**EXPERIMENT** : Design automatic LED Diwali lights (consisting of 6 LED's) such that it only work during night and can generate two pattern which can be we toggled with switch. a pattern 1 – led blinks at rate of 500ms b. Pattern 2- led blinks at the rate of 1 sec

**DIAGRAM:-**



**THEORY:**

**CONCEPT USED-** The concept of the following experiment is state as, when the light is dim or it is night than the LDR sensor while senses it and respond it by giving one of the value from 0 to 1023. That is identified by arduino then one pattern of led starts after that it wait for the next response

to be generated by the switch then at next click on switch it changes the pattern ,same thing continued.

### **LEARNING AND OBSERVATIONS-**

- ➔ We learn the concepts of switch that used with arduino and how to control the path of flow of current to get a proper input.
- ➔ We learn how to code in arduino.
- ➔ We learn to use the LDR in the circuit.

### **PROBLEMS AND TROUBLESHOOTING –**

- ➔ We do not precise the path of current it will directly go to the ground and never give a result high or 1 to the arduino for further process.
- ➔ While during connections it is important to do all connection in a sequence manner otherwise for loop will not be used while during program.
- ➔ Sensitivity of sensor should be feed accurately.

### **PRECAUTIONS -**

- ➔ Wiring should be done properly,neatly.
- ➔ Do not use excess wires try to reduce number of wires used.
- ➔ Resistor of high resistance more than that of arduino should be used.

## LEARNING OUTCOMES –

We learn to code and how to make circuit using arduino.

## CODING-

```
int c=2;

  int a,t;
int bp=LOW,ls=HIGH;
int b;
void setup()
{
  pinMode(8,INPUT);
  for(int i=1;i<7;i++)
  {
    pinMode(i, OUTPUT);
  }
}

void loop()
{
  b=analogRead(A0);
  a=digitalRead(8);
  delay(100);
  if(a==HIGH)
  {
```

```
    c++;  
    delay(100);  
}
```

```
if(b<300)  
{
```

```
    if((c%2)==0)  
    {  
        for(int i=1;i<7;i++)  
        {digitalWrite(i,HIGH);  
          delay(500);  
          digitalWrite(i,LOW);}  
    }
```

```
    else  
    {  
        for(int i=1;i<7;i++)  
        {digitalWrite(i,HIGH);  
          delay(1000);  
          digitalWrite(i,LOW);}  
    }
```

```
}
```

```
}  
else{  
  for(int i=0;i<7;i++)  
    digitalWrite(i,LOW);}  
}
```