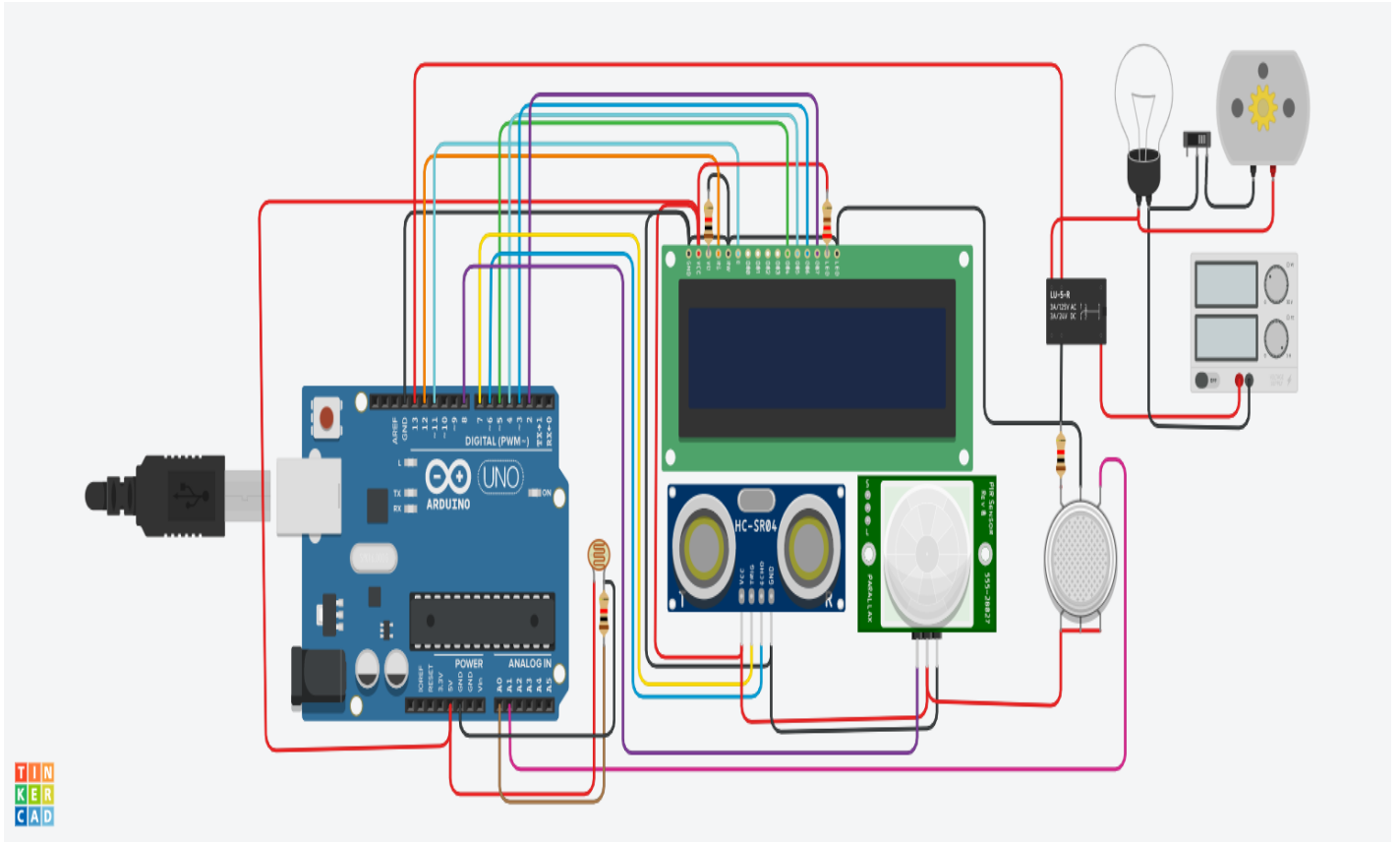# IBM ASSIGNMENT-IOT

Student Name :GAYATHRI L

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 Branch   :Electronic and Communication
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Circuit:

Code:

```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

int distanceThreshold = 0;
int cm = 0;
int inches = 0;

int releNO = 13;
int inputPir = 8;
int val = 0;
int resuldoSensorLDR;
int sensorLDR = A0;

int const PINO_SGAS = A1;

long readUltrasonicDistance(int triggerPin, int echoPin)
{
  pinMode(triggerPin, OUTPUT);  // Clear the trigger
  digitalWrite(triggerPin, LOW);
  delayMicroseconds(2);
  digitalWrite(triggerPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);
```

```arduino
    return pulseIn(echoPin, HIGH);
  }


  void setup() {

    lcd.begin(16, 2);

    pinMode(releNO, OUTPUT);
    pinMode(inputPir, INPUT);
    pinMode(sensorLDR, INPUT);
    Serial.begin(9600);
  }


  void loop() {

    distanceThreshold = 350;
    cm = 0.01723 * readUltrasonicDistance(7, 6);


    inches = (cm / 2.54);


    lcd.setCursor(0,0);
    lcd.print("D:");
    lcd.print(cm);
    lcd.print("cm");
    delay(10);


    val = digitalRead(inputPir);
    resuldoSensorLDR = analogRead(sensorLDR);
    if(resuldoSensorLDR<600)
    {
      if(val == HIGH)
      {
```

```
      digitalWrite(releNO, HIGH);

      lcd.setCursor(0,1);

   lcd.print("L: On ");

      delay(5000);

   }

    else{

      digitalWrite(releNO, LOW);lcd.setCursor(0,1);

   lcd.print("L: Off");

      delay(300);

   }

 }

   else{ digitalWrite (releNO, LOW);

   Serial.println(resuldoSensorLDR);

   delay(500);

   }


   int color = analogRead(PINO_SGAS);


   lcd.setCursor(8,0);

   //lcd.print("");

   if(color <= 85){

    lcd.print("G:Low ");

   } else if(color <= 120){

    lcd.print("G:Med ");

   } else if(color <= 200){

    lcd.print("G:High");

   } else if(color <= 300){

    lcd.print("G:Ext ");

   }


   delay(250);

 }
}
```