IBM ASSIGNMENT-1

Assignment Date	17 September 2022
Student Name	C.Saran
Student Roll Number	510119104019
Maximum Marks	4 Marks

Assignment details:

Technology: IOT

Domain: Signs With Smart connectivity For Better Road Safety

Assignment Question :-

Construct a home automation system using Arudino Uno circuit using 2+ sensors, LED and a Buzzer.

Assignment Description:

This is a connection setup of an Arudino Uno, LED(3),temperature sensor, humidity sensor and a buzzer. Initially the arudino is connected to the temperature sensor and with LEDs. When the temperature varies different LEDs glow. Then the arudino is connected to the PIR sensor which is connected to the buzzer. The PIR sensor senses the movement of humans and produces output according to the movement.

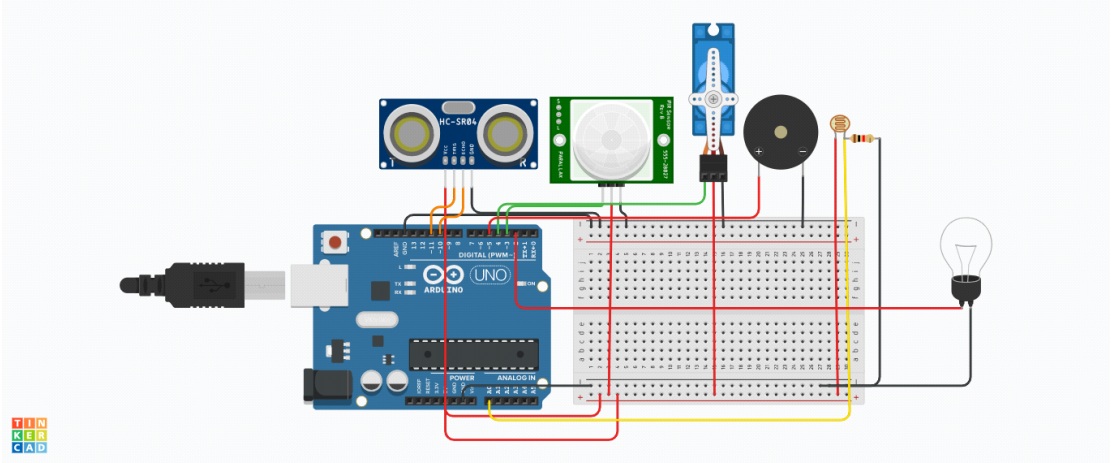
Apparatus Required:

- Arudino Uno
- LEDs(Green, Blue, Red)
- PIR sensor
- Temperature Sensor
- Buzzer

Code:

```
#include <Servo.h>
```

```
long readUltrasonicDistance(int triggerPin, int echoPin)
{
  pinMode(triggerPin, OUTPUT);
  digitalWrite(triggerPin, LOW);
  delayMicroseconds(2);

  digitalWrite(triggerPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);

  return pulseIn(echoPin, HIGH);
}

Servo servo_4;

void setup()
{
  Serial.begin(9600);
  pinMode(A0, INPUT);
  pinMode(2, OUTPUT);
  servo_4.attach(4, 500, 2500);
  pinMode(3, INPUT);
  pinMode(5, OUTPUT);
}

void loop()
{
  Serial.println("light level=");
  Serial.println(analogRead(A0));
  if (analogRead(A0) < 865) {
    digitalWrite(2, HIGH);
  } else {
    digitalWrite(2, LOW);
  }
  Serial.println("distance=");
  Serial.println(0.01723 * readUltrasonicDistance(11, 10));
  if (0.01723 * readUltrasonicDistance(11, 10) < 150) {
    servo_4.write(90);
  } else {
    servo_4.write(0);
  }
  Serial.println("motion=");
  Serial.println(digitalRead(3));
  if (digitalRead(3) == 1) {
    digitalWrite(5, HIGH);
  } else {
    digitalWrite(5, LOW);
  }
  delay(10);
}
```


HC-SR04
DIGITAL (PWM~)
UNO
ARDUINO
POWER
ANALOG IN
TINKERCAD