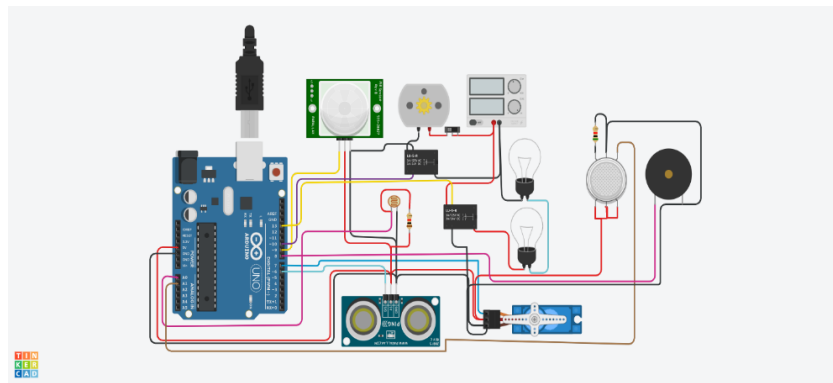


Department of Information Technology

IOT ASSIGNMENT 1

Topic: Assignment on Smart Home in Tinker Card

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Code:

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

```
int output1Value = 0;  
int sen1Value = 0;  
int sen2Value = 0;  
int const gas_sensor = A1;  
int const LDR = A0;  
int limit = 400;
```

```
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);

    return pulseIn(echoPin, HIGH);
}

Servo servo_7;

void setup()
{
    Serial.begin(9600);
    pinMode(A0, INPUT);
    pinMode(A1, INPUT);
    pinMode(13, OUTPUT);
    servo_7.attach(7, 500, 2500);

    pinMode(8, OUTPUT);
    pinMode(9, INPUT);

    pinMode(10, OUTPUT);
    pinMode(4, OUTPUT);
    pinMode(3, OUTPUT);
}

void loop()
{
    int val1 = analogRead(LDR);
    if (val1 > 500)
    {
        digitalWrite(13, LOW);
        Serial.print("Bulb ON = ");
        Serial.print(val1)
    }
}

```

```
else
{
    digitalWrite(13, HIGH);
    Serial.print("Bulb OFF = ");
    Serial.print(val1);
}
```

```
sen2Value = digitalRead(9);
if (sen2Value == 0)
{
    digitalWrite(10, LOW);
    digitalWrite(4, HIGH);
    digitalWrite(3, LOW);
    Serial.print("    || NO Motion Detected    ");
}
```

```
if (sen2Value == 1)
{
    digitalWrite(10, HIGH);
    delay(3000);
    digitalWrite(4, LOW);
    digitalWrite(3, HIGH);
    Serial.print("    || Motion Detected!    ");
}
delay(300);
```

```
int val = analogRead(gas_sensor);
Serial.print("|| Gas Sensor Value = ");
Serial.print(val);
```

```
if (val > limit)
{
    tone(8, 650);
}
delay(300);
noTone(8);
```

```
sen1Value = 0.01723 * readUltrasonicDistance(6, 6);

if (sen1Value < 100)
{
    servo_7.write(90);
    Serial.print("  || Door Open! ; Distance = ");
    Serial.print(sen1Value);
    Serial.print("\n");

}
else
{
    servo_7.write(0);
    Serial.print("  || Door Closed! ; Distance = ");
    Serial.print(sen1Value);
    Serial.print("\n");
}
delay(10); // Delay a little bit to improve simulation
performance
}
```