## Assignment -1

Team ID: PNT2022TMID52309

Team leader: Harisha H

## Objective:

Build a smart home in Tinkercard with 2 sensors, an Led and buzzer.

## 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);
// Sets the trigger pin to HIGH state for 10 microseconds
    digitalWrite(triggerPin, HIGH);
```

```
delayMicroseconds(10);
 digitalWrite(triggerPin, LOW);
 pinMode(echoPin, INPUT);
// Reads the echo pin, and returns the sound wave travel time in microseconds
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()
  //----light intensity control----//
```

```
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);
  }
//-----
   //----- light & fan control -----//
//-----
 sen2Value = digitalRead(9);
if (sen 2 Value == 0)
  digitalWrite(10, LOW);
  digitalWrite(4, HIGH);
  digitalWrite(3, LOW);
 Serial.print(" || NO Motion Detected ");
  }
if (sen2Value == 1)
  {
  digitalWrite(10, HIGH);
  delay(5000);
```

```
digitalWrite(4, LOW);
 digitalWrite(3, HIGH);
  Serial.print("
                  || Motion Detected! ");
//-----
  // ----- Gas Sensor -----//
//-----
int val = analogRead(gas_sensor);
Serial.print("|| Gas Sensor Value = ");
Serial.print(val);
//val = map(val, 300, 750, 0, 100);
if (val > limit)
 {
 tone(8, 650);
 }
 delay(300);
 noTone(8);
//-----
  //----- servo motor -----//
//-----
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);
                        KER Smart Home
                           int outputlValue = 0;
int seniValue = 0;
int seniValue = 0;
int const gas_sensor = A1;
int const LDR = A0;
int limit = 400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  comp readultrasonLoustance(int triggerin, in endorin)
{
    pinNode(criggerPin, UTUT); // Clear the trigger
    digitalWrite(triggerPin, LOW);

    delayMicroseconds(int of the state for 10 microseconds
    digitalWrite(triggerPin, HORN);
    delsyMicroseconds(int);
    delsyMicroseconds(int);
    delsyMicroseconds(int);
    delsyMicroseconds(int);
    idelsyMicroseconds(int);
    idel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Serial.begin(9600); //initialize serial com
pinMode(A), INPUT); //DR
pinMode(A), INPUT); //gas sensor
pinMode(A), OUTPUT); //connected to relay
servo_7.attach(7, 500, 2500); //servo motor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  //signal to piezo buzzer
//signal to PIR
//signal to npn as switch
```

