

Assignment -1
Home Automation

Assignment Date	13 September 2022
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Maximum Marks	2 Marks

Question 1:

Make a Smart Home in Tinker cad, using 2+sensors, Led, Buzzer in single code and circuit.

Code:

```
const int pingPin = 10;

const int ledUS = 2;

const int light = 7; const
int pir = 4;

#define photoSensor A0

#define buzzer 3 int const
PINO_SGAS = A5; int const
ledGas = 8; int const
button = 5; int const
motor =13;

void setup()
{
    pinMode(ledUS, OUTPUT);
    pinMode(light, OUTPUT);
    pinMode(buzzer, OUTPUT);
    pinMode(ledGas, OUTPUT);
    pinMode(motor, OUTPUT);
    pinMode(pir, INPUT);
    pinMode(button, INPUT);
```

```

pinMode(photoSensor, INPUT);
Serial.begin(9600);

}

void loop()
{
    long duration, cm; int valLight =
    analogRead(photoSensor); int valPIR=
    digitalRead(pir);

    int valGAS = analogRead(PINO_SGAS);
    valGAS = map(valGAS, 300, 750, 0, 100); int
    valBt = digitalRead(button);

    pinMode(pingPin, OUTPUT);
    digitalWrite(pingPin, LOW);
    delayMicroseconds(2);
    digitalWrite(pingPin, HIGH);
    delayMicroseconds(5);
    digitalWrite(pingPin, LOW);

    pinMode(pingPin, INPUT);
    duration = pulseIn(pingPin, HIGH);

    cm = microsecondsToCentimeters(duration);

    if(cm < 336){
    digitalWrite(ledUS, HIGH);
    }else{
        digitalWrite(ledUS, LOW);
    }
}

```

```
    if(valLight < 390){
digitalWrite(light, HIGH); }else{
digitalWrite(light, LOW);
}

    if(valPIR == 1){
digitalWrite(buzzer,HIGH);
}else{
    digitalWrite(buzzer, LOW);
}

    if(valBt == 1) {
        digitalWrite(motor, HIGH);
    }else{
        digitalWrite(motor, LOW);
    }

    if(valGAS >20) {
digitalWrite(ledGas, HIGH);
    }else{
        digitalWrite(ledGas, LOW);
    }

    Serial.print(valPIR);

    Serial.println();
}

long microsecondsToCentimeters(long microseconds) {
return microseconds / 29 / 2;
}
```

Circuit Diagram:

