

Assignment:1

Assignment date	16-09-2022
Student roll number	912619106008
Student name	R.Priyanga
Maximum mark	2 mark

Question-1:

Write the code and make smart home with atleast 2sensors and LED,BUZZER.using tinkercad

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

```
Servo servo_7;
```

```
void setup()  
{  
  
  Serial.begin(9600); //initialize serial communication  
  
  pinMode(A0, INPUT); //LDR  
  
  pinMode(A1, INPUT); //gas sensor  
  
  pinMode(13, OUTPUT); //connected to relay  
  
  servo_7.attach(7, 500, 2500); //servo motor  
  
  
  pinMode(8, OUTPUT); //signal to piezo buzzer
```

```
pinMode(9, INPUT); //signal to PIR
```

```
pinMode(10, OUTPUT); //signal to npn as switch
```

```
pinMode(4, OUTPUT); //Red LED
```

```
pinMode(3, OUTPUT); //Green LED
```

```
}
```

```
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 (sen2Value == 0)
{
digitalWrite(10, LOW); //npn as switch OFF
digitalWrite(4, HIGH); // Red LED ON, indicating no
motion
digitalWrite(3, LOW); //Green LED OFF, since no
Motion
Serial.print(" || NO Motion Detected " );
}
```

```
if (sen2Value == 1)
{
digitalWrite(10, HIGH); //npn as switch ON
delay(5000);
digitalWrite(4, LOW); // RED LED OFF
digitalWrite(3, HIGH); //GREEN LED ON , indicating
motion
```

```
Serial.print(" || Motion Detected! " );
```

```
}
```

```
//-----
```

```
// ----- Gas Sensor -----//
```

```
//-----
```

```
int val = analogRead(gas_sensor); //read sensor value
```

```
Serial.print(" || Gas Sensor Value = ");
```

```
Serial.print(val); //Printing in serial monitor
```

```
//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");

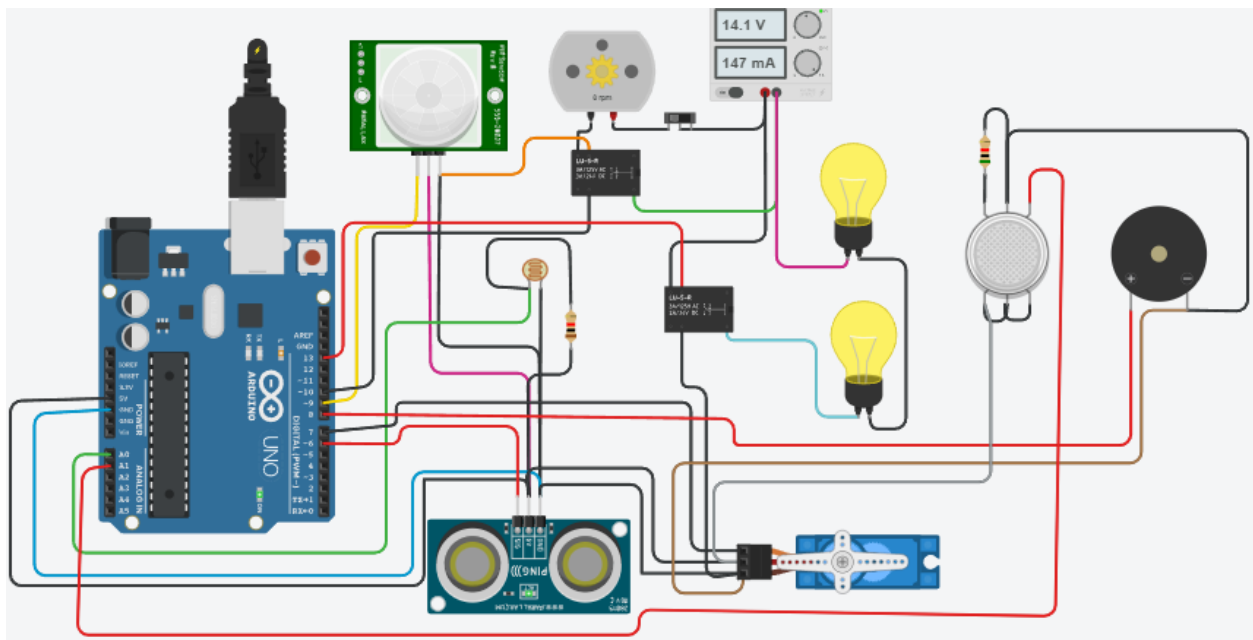
}

delay(10); // Delay a little bit to improve simulation
performance

{

```

Output:



To	ksasi
Cc	
Bcc	
Subject	
