Assignment -1

Assignment Date	19 September 2022
Student Name	Mr. B.Mathavan
Student Roll Number	621319106054
Maximum Marks	2 Marks

Question-1:

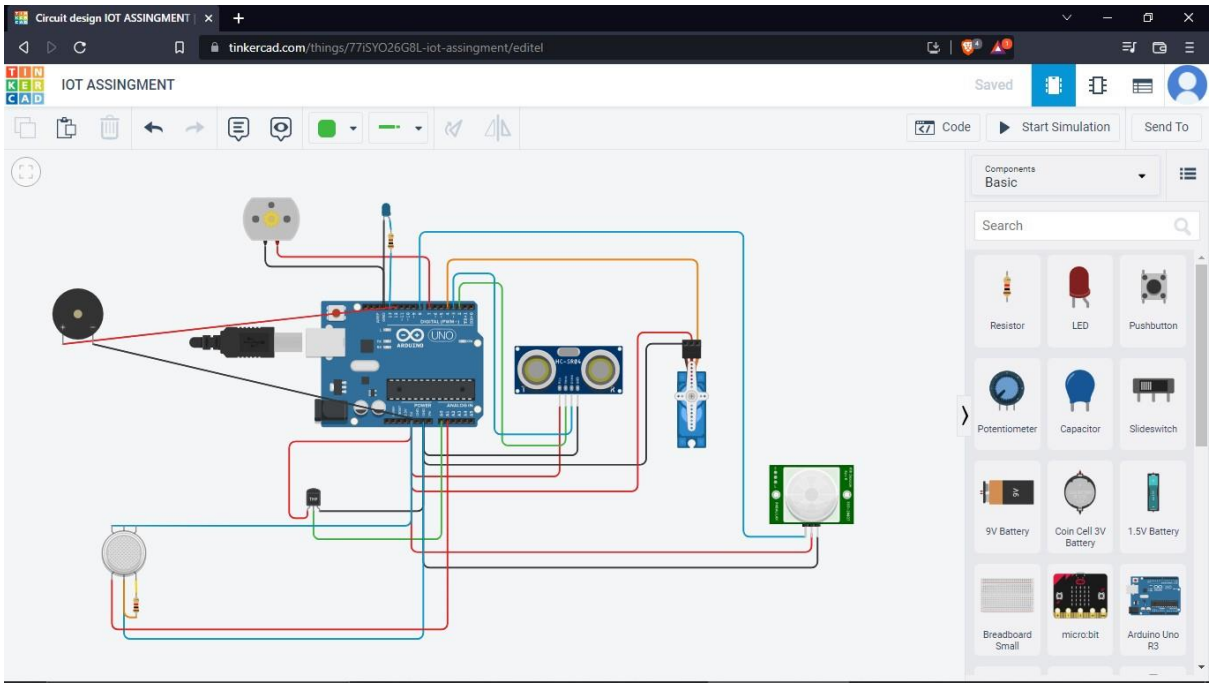
Write code for home automation using Arduino in Tinkercad.

Solution:

```
#include<Servo.h>
Servo s;
int t;
int n;
int c;
int p;
int a;
int b;
int distance;
void setup()
{
 Serial.begin(9600);
pinMode(2,OUTPUT);
pinMode(3,INPUT);
pinMode(4,OUTPUT);
pinMode(7,OUTPUT);
pinMode(A0,INPUT);
pinMode(8,INPUT);
pinMode(13,OUTPUT);
pinMode(12,OUTPUT);
s.attach(4);
}
void loop()
{
  // for door(ultrasonic)
digitalWrite(2,HIGH);
delayMicroseconds(10);
digitalWrite(2,LOW);
t=pulseIn(3,HIGH);
distance=((t*0.034)/2)+2;

  if(distance<=60)
```

```
 {
   s.write(90);
 }
 else
 {
   s.write(0);
 }

 // for fan(temp)   n=analogRead(A0);
c=map(((n-20)*3.04),0,1023,-40,125);
 Serial.print("Celsius :");
 Serial.println(c);

 if(c>=20)
 {
   digitalWrite(7,HIGH);
 }
 else
 {
   digitalWrite(7,LOW);
 }

 //for motion detection(PIR)
p=digitalRead(8);
Serial.print("Object:");
Serial.println(p);
digitalWrite(13,LOW);
 if(p){
 Serial.println("**Motion Detected**");
digitalWrite(13,HIGH);
 }
 delay(1000);

 // Gas
a=analogRead(A1);
b=map(a,0,1023,0,255);
Serial.print("Gas: ");
Serial.println(b);   if(b>=85)
 {
 Serial.println("**Smoke Detected!!**");
digitalWrite(12,HIGH);
 }
 else
 {
   digitalWrite(12,LOW);
 }
```

```
}
```


Circuit design IOT ASSINGMENT
tinkercad.com/things/77iSYO26G8L-iot-assingment/editel
IOT ASSINGMENT
Saved
Code
Start Simulation
Send To
Components
Basic
Search
Resistor
LED
Pushbutton
Potentiometer
Capacitor
Slideswitch
9V Battery
Coin Cell 3V Battery
1.5V Battery
Breadboard Small
micro:bit
Arduino Uno R3