# ASSIGNMENT – 1

## BUILD A SMART HOME IN THINKERCAD

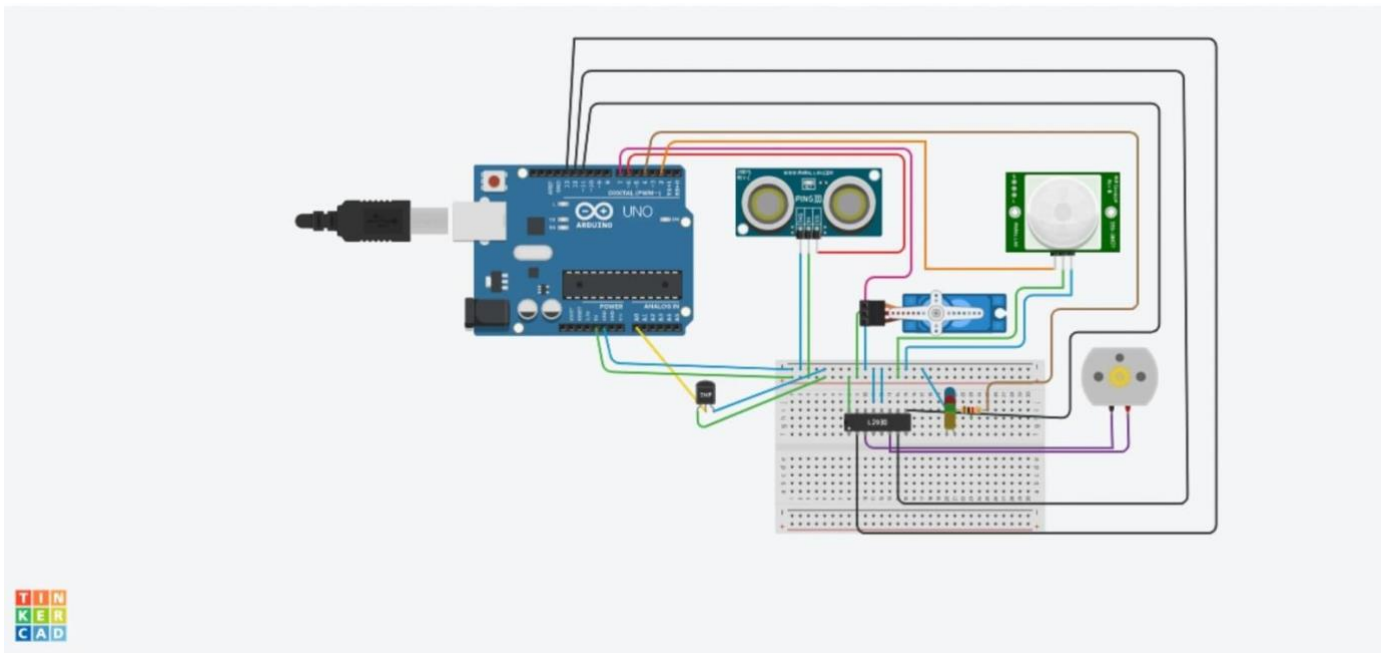| Assignment date | 26 September 2022 |
|---|---|
| Student name | G.Jana priya |
| Student Roll number | 815119106015 |
| Maximum marks | 2 marks |

**QUESTION -1:**

Build a smart home in thinkercad

Use atleast 2 sensor, led, buzzer in a circuit. Stimulate in a single code.

**Solution:**

**CIRCUIT**



**CODE:**

```
#include<Servo.h>

int us = 6; int

servo = 7;


Servo servo1;
```

```arduino
void setup() {

Serial.begin(9600);

servo1.attach(servo);

pinMode(2,INPUT);

pinMode(4,OUTPUT);

pinMode(11,OUTPUT);

pinMode(12,OUTPUT);

pinMode(13,OUTPUT);

pinMode(A0,INPUT);

digitalWrite(2,LOW);

digitalWrite(11,HIGH);


}

void loop() {

  long duration, inches, cm;

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

  pinMode(us, INPUT);
duration = pulseIn(us, HIGH);
inches =
microsecondsToInches(duratio
```

```
n);   cm =
microsecondsToCentimeters(d
uration);


  servo1.write(0);


 if(cm < 30)
 {
  servo1.write(120);
  Serial.println("A Person Arrived, Door is Opening......");
delay(2000);
 }
 else
 {
  servo1.write(0);
  Serial.println("Door is Closed.....");
 }


 int pir = digitalRead(2);


 if(pir == HIGH)
 {
  digitalWrite(4,HIGH);
delay(3000);
 }
 else if(pir == LOW)
 {
  digitalWrite(4,LOW);
 }
```

```arduino
  float value=analogRead(A0);   float
temp=(((value/1024)*5.0199)-0.5)*100;


  Serial.print("temp is ");
Serial.println(temp);
delay(3000);


  if(temp > 20)
  {
   digitalWrite(12,HIGH);
digitalWrite(13,LOW);
  }
  else
  {
   digitalWrite(12,LOW);
digitalWrite(13,LOW);
  }
}

long microsecondsToInches(long microseconds) {
return microseconds / 74 / 2;
}

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