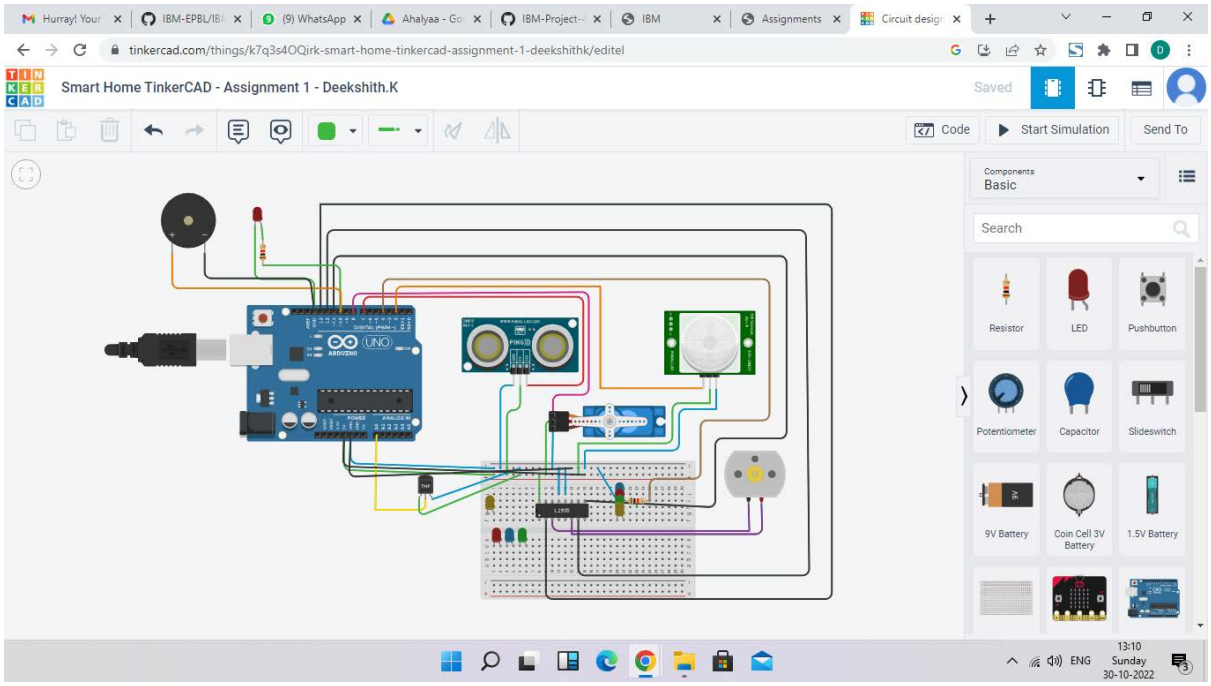
Assignment -1

Assignment Date	21 September 2022
Student Name	Deekshith.K
Student Roll Number	713319CS027
Maximum Marks	2 Marks

Question-1:

Build a smart home in Tinkercad with 2 sensors, an Led, buzzer and submit it

Solution :




```
#include<Servo.h>

const int pingPin = 7;

int servoPin = 8;


Servo servo1;


void setup() {

  Serial.begin(9600);
```

```
  servo1.attach(servoPin);
  pinMode(2,INPUT);
  pinMode(4,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(13,OUTPUT);
  pinMode(A0,INPUT);
  digitalWrite(2,LOW);
  digitalWrite(11,HIGH);
   pinMode(2, INPUT);
  pinMode(10,OUTPUT);
}

void loop() {

  long duration, inches, cm;

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

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

  inches = microsecondsToInches(duration);
  cm = microsecondsToCentimeters(duration);

  servo1.write(0);
```

```
if(cm < 40)
{
  servo1.write(90);
  delay(2000);
}
else
{
  servo1.write(0);
}

int pir = digitalRead(2);

if(pir == HIGH)
{
  digitalWrite(4,HIGH);
  delay(1000);
}
else if(pir == LOW)
{
  digitalWrite(4,LOW);
}
Serial.println(digitalRead(2));
if (digitalRead(2) == 1) {
  digitalWrite(10, HIGH);
} else {
  digitalWrite(10, LOW);
}
delay(10);

float value=analogRead(A0);
```

```
  float temperature=value*0.48;

  Serial.println("temperature");
  Serial.println(temperature);

  if(temperature > 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;
}
```