

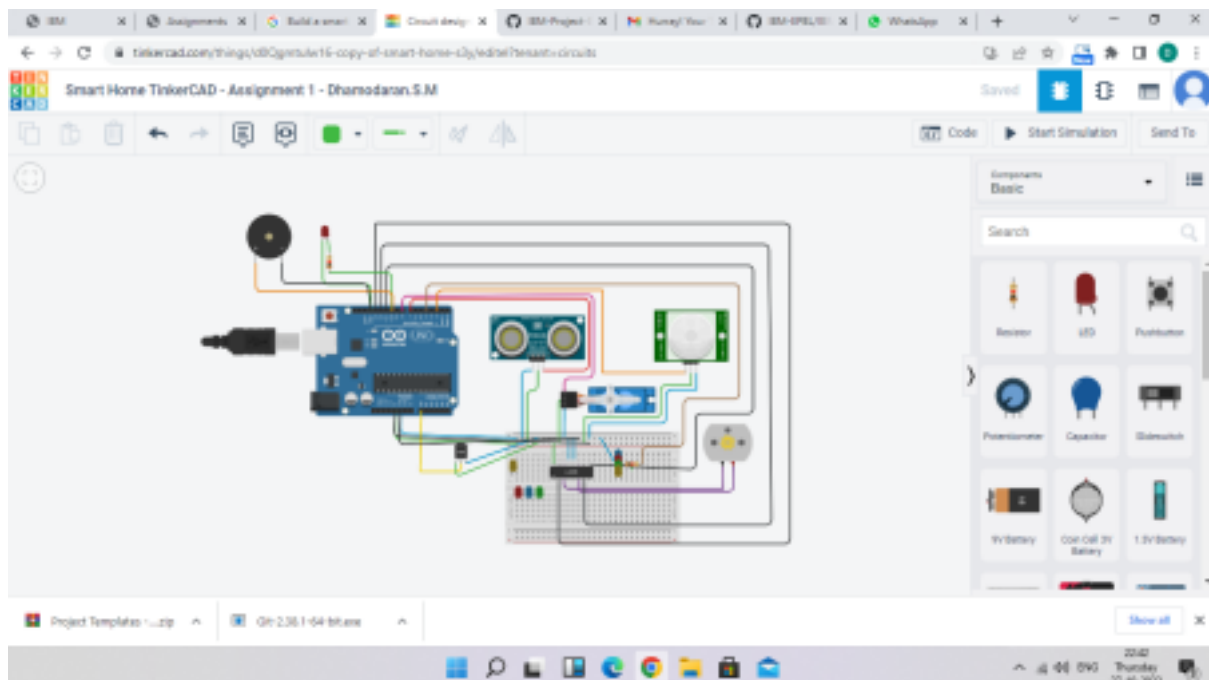
Assignment -1

Assignment Date	21 September 2022
Student Name	Aruna R
Student Roll Number	713319CS013
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;  
}
```