

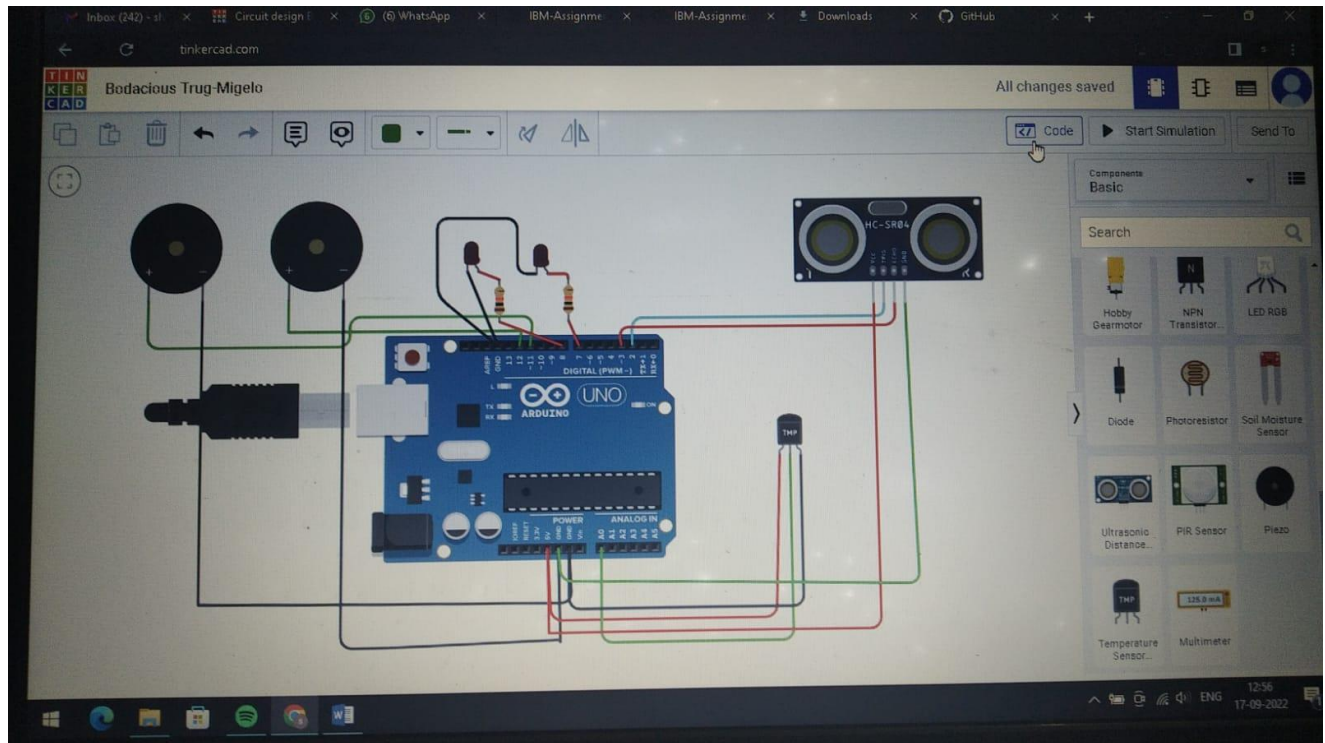
# IBM-Nalaiya Thiran Project

## Assignment 1-Smart Home

-SHYLA SREE R L

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### **CIRCUIT DIAGRAM:**



### **SOURCE CODE:**

```
int t=2;

int e=3;

void setup()
{
  Serial.begin(9600);
  pinMode(t,OUTPUT);
```

```
pinMode(e,INPUT);

pinMode(12,OUTPUT);

}

void loop()

{

//ultrasonic sensor

digitalWrite(t,LOW);

digitalWrite(t,HIGH);

delayMicroseconds(10);

digitalWrite(t,LOW);

float dur=pulseIn(e,HIGH);

float dis=(dur*0.0343)/2;

Serial.print("Distance is: ");

Serial.println(dis);


//LED ON

if(dis>=60)//(in terms of centimeter)

{

digitalWrite(8,HIGH);

digitalWrite(7,HIGH);

}


//Buzzer For ultrasonic Sensor

if(dis>=60)

{
```

```
for(int i=0; i<=5; i=i+1)
{
tone(12,i);

delay(1000);

noTone(12);

delay(1000);

}

}
```

```
//Temperate Sensor

double a= analogRead(A0);

double t=(((a/1024)*5)-0.5)*100;

Serial.print("Temp Value: ");

Serial.println(t);

delay(1000);
```

```
//LED ON

if(t>=20)//(in terms of celsius)

{

digitalWrite(8,HIGH);

digitalWrite(7,HIGH);
```

```
}
```

```
//Buzzer for Temperature Sensor
```

```
if(t>=20)
```

```
{
```

```
for(int i=0; i<=5; i=i+1)
```

```
{
```

```
tone(12,i);
```

```
delay(1000);
```

```
noTone(12);
```

```
delay(1000);
```

```
}
```

```
}
```

```
//LED OFF
```

```
if(t<20)
```

```
{
```

```
digitalWrite(8,LOW);
```

```
digitalWrite(7,LOW);
```

```
}
```

```
}
```

### **TINKERCAD LINK:**

<https://www.tinkercad.com/things/2VsEFog01RR-bodacious-trug-migelo/edit?tenant=circuits>

All changes saved



Code

Text



Serial Monitor

```
Distance is: 112.88
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.86
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.86
Temp Value: 24.71
Distance is: 112.88
Distance is: 112.88
Temp Value: 24.71
```



