

Assignment 1

Assignment Date	8 September 2022
Student Name	Srinidhi R
Student Roll Number	AC19UCS115
Maximum Marks	2 Marks

Question:

Build a smart home in Thinkercad with 2 sensors, an Led, buzzer.

Program:

```
// C++ 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>=100)
{
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
}

//Buzzer For ultrasonic Sensor
if(dis>=100)
{
    for(int i=0; i<=30000; i=i+10)
    {
        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>=100)
{
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
}

```

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

```
if(t>=100)
```

```
{
```

```
for(int i=0; i<=30000; i=i+10)
```

```
{
```

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

```
delay(1000);
```

```
noTone(12);
```

```
delay(1000);
```

```
}
```

```
}
```

```
//LED OFF
```

```
if(t<100)
```

```
{
```

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

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

```
}
```

```
}
```

