

Assignment -1

Assignment Date	
Student Name	Manikandan
Student Roll Number	20ECL09
Maximum Marks	2 Marks

Question-1:

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

Solution:

```
int t=4;
```

```
int e=5;
```

```
void setup()
```

```
{  
  Serial.begin(9600);  
  pinMode(t,OUTPUT);  
  pinMode(e,INPUT);  
  pinMode(10,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>=150)
```

```
{  
  digitalWrite(5,HIGH);  
  digitalWrite(6,HIGH);  
}
```

```
  //Buzzer For ultrasonic Sensor
```

```
  if(dis>=150)
```

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

```
{  
tone(12,i);  
delay(1000);  
noTone(12);  
delay(2000);  
}  
}
```

```
//Temperate Sensor  
double a= analogRead(A0);  
double t=((a/1024)*5)-0.5)*100;  
Serial.print("Temp Value: ");  
Serial.println(t);  
delay(2000);
```

```
//LED ON  
if(t>=120)  
{  
digitalWrite(5,HIGH);  
digitalWrite(6,HIGH);  
}
```

```
//Buzzer for Temperature Sensor  
if(t>=120)  
{  
for(int i=0; i<=30000; i=i+10)  
{  
tone(12,i);  
delay(1000);  
noTone(12);  
delay(2000);  
}  
}
```

```
//LED OFF  
if(t<120)  
{  
digitalWrite(5,LOW);  
digitalWrite(6,LOW);  
}  
}
```

