

**Assignment -1**  
Python Programming

Assignment Date	15 September 2022
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Maximum Marks	2 Marks

**Question-1:**

**Circuit design for home automation using Tinkercad**

```
int t=2;
int e=3;
#define led1 8
#define led2 7
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(led1,HIGH);
    digitalWrite(led2,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(led1,HIGH);
digitalWrite(led2,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(led1,LOW);
digitalWrite(led2,LOW);
}
}

```

### Circuit diagram:

