Assignment -1

Assignment Date	12 September 2022
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Maximum Marks	2 Marks

Question-1:

Write code for home automation using Arduino in Tinkercad.

Solution:

```
int tr = 2;

int e = 3;

int distance;

void setup()

{

  Serial.begin(9600);

  pinMode(4,INPUT);

  pinMode(8,OUTPUT);

  pinMode(13,OUTPUT);

  pinMode(tr,OUTPUT);

  pinMode(e,INPUT);

  pinMode(12,OUTPUT);

}

void loop()

{

  int p=digitalRead(4);

  Serial.println(p);

  if(p)

  {

   digitalWrite(13,HIGH);

   Serial.println("motion detected and led on!!");
```

```
}
delay(1000);
double a=analogRead(A0);
double t=(((a/1024)*5)-0.5)*100;
Serial.println(t);
if(t>20)
  Serial.println("temperature greater than 20. so,cooler on");
delay(1000);
digitalWrite(tr,LOW);
digitalWrite(tr,HIGH);
delayMicroseconds(10);
digitalWrite(tr,LOW);
float dur = pulseIn(e,HIGH);
float dis = (dur*0.0343)/2;
Serial.print("distance: ");
Serial.print(dis);
Serial.println(" cm");
if(distance<100)
{
  digitalWrite(8,HIGH);
  Serial.println("turn on light !!");
}
else
  Serial.println("turn off light !!");
if(dis>=100)
{
  for(int i=0;i<=30000;i=i+10)
  {
    tone(12,i);
    delay(1000);
    noTone(12);
```

```
   delay(1000);

  }

 }

}
```