

### 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);  
}  
}  
}
```

