**Assignment -1**

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| Assignment Date | 12 September 2022 |
| Student Name | SATHIYAPRIYA N |
| Student Roll Number | 621319106314 |
| Maximum Marks | 2 Marks |

**Question-1:**

Write code for home automation using Arduino in Tinkercad.

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| **Solution:** |
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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);

}

}

}

