

ASSIGNMENT-1

Objective:

Make a smart home in Tinkercad using 2+ sensors , LED, Buzzer in single code and circuit.

Coding:

```
// C++ code
//
int trig=4;
int echo=6;
void setup()
{
  pinMode(trig,OUTPUT);
  pinMode(echo,INPUT);
  pinMode(11,INPUT);
  Serial.begin(9600);
  pinMode(9,OUTPUT); // buzzer for temp
  pinMode(2,OUTPUT); //led of ultrasonic
  pinMode(7,OUTPUT); //led of pir
}
```

```

void loop()
{
    double a=analogRead(A1);
    Serial.print("adc value:");
    Serial.println(a);
    double v=a/1024;

    double tvolt=v*5; // here 5 is in volt and thhiseqe for elect to
temp volt

    Serial.print("temp volt:");
    Serial.println(tvolt);

    double o=tvolt-0.5; //for octol and 0.5 for min volt for octal
    double t=o*100;// this two eqe for volt to temp

    Serial.print("temp is:");
    Serial.println(t);
    //delay(2000);

    digitalWrite(trig,LOW); //off
    digitalWrite(trig,HIGH);
    delayMicroseconds(10);
    digitalWrite(trig,LOW); // till this for trigger
    float dur=pulseIn(echo,HIGH); // echo on
    float dist=(dur*0.0343)/4; //cm to m

    Serial.println("distance:");
    Serial.println(dist); //ultra sonic

    int m=digitalRead(11);

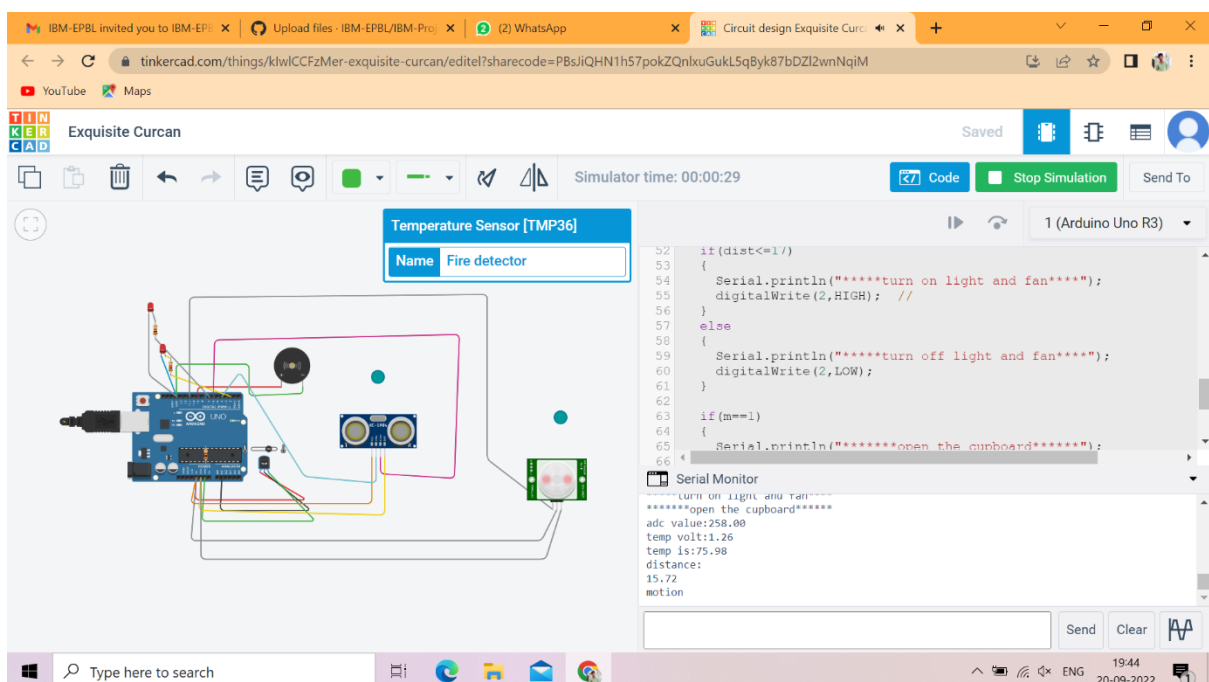
```

```
Serial.print("motion detected : ");  
Serial.println(m);  
if(t>=50)  
{  
    Serial.println("*****house on fire*****");  
    digitalWrite(9,HIGH);//to get  
}  
else  
{  
    digitalWrite(9,LOW);  
}  
//delay(2000);  
  
if(dist<=17)  
{  
    Serial.println("*****turn on light and fan*****");  
    digitalWrite(2,HIGH); //  
}  
else  
{  
    Serial.println("*****turn off light and fan*****");  
    digitalWrite(2,LOW);  
}
```

```

if(m==1)
{
    Serial.println("*****open the cupboard*****");
    digitalWrite(7,HIGH);
    delay(50);
}
else
{
    Serial.println("*****close the cupboard*****");
    digitalWrite(7,LOW);
}
delay(50);
}

```



Simulation link :

<https://www.tinkercad.com/things/klwlCCFzMer-exquisite-curcan/editel?sharecode=PBsJiQHN1h57pokZQnlxuGukL5qByk87bDZl2wnNqiM&sharecode=PBsJiQHN1h57pokZQnlxuGukL5qByk87bDZl2wnNqiM>