

IBM-NALAYATHIRAN

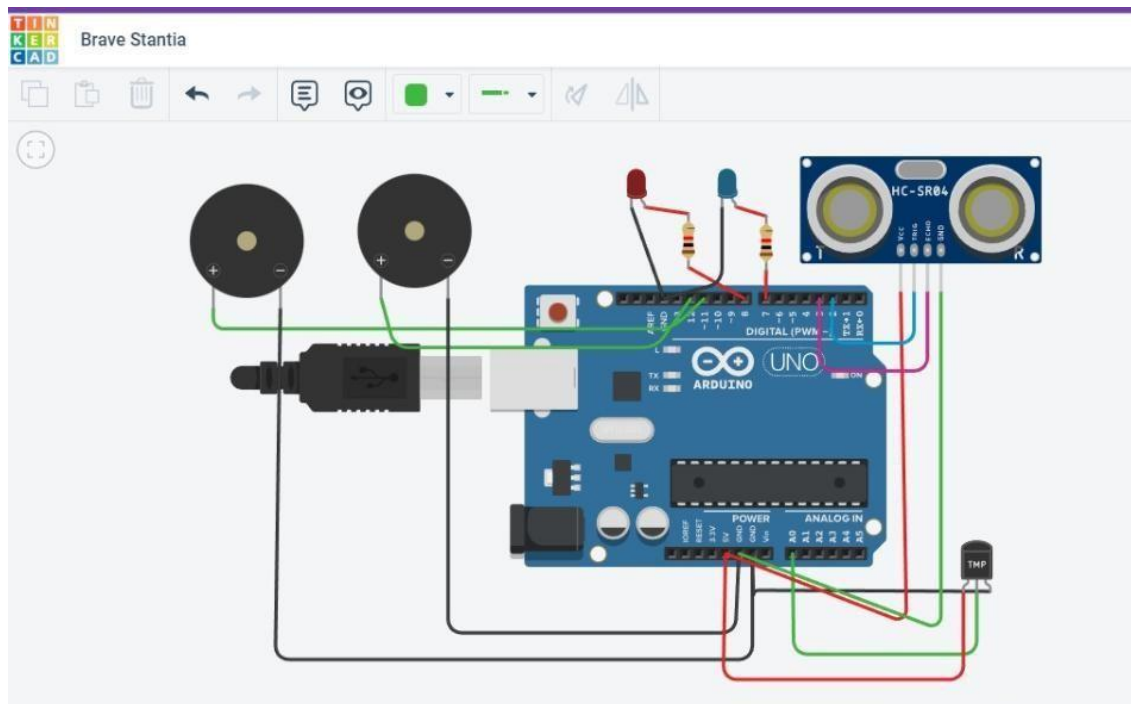
DOMAIN: IoT

ASSIGNMENT 1:SMART HOME

By

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## Circuit Diagram:



## Code:

```
int t=2;

int e=3;

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);
```

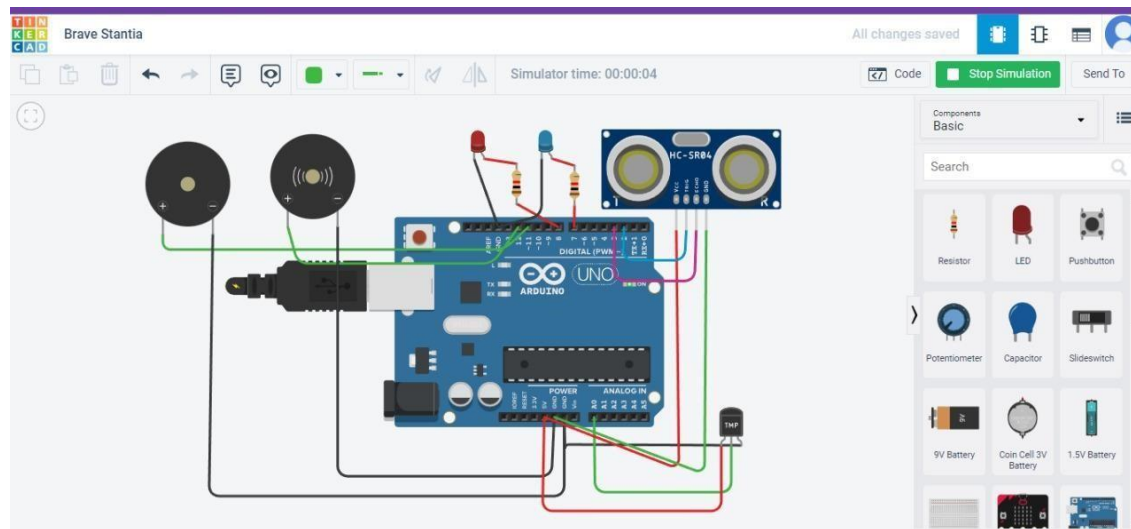
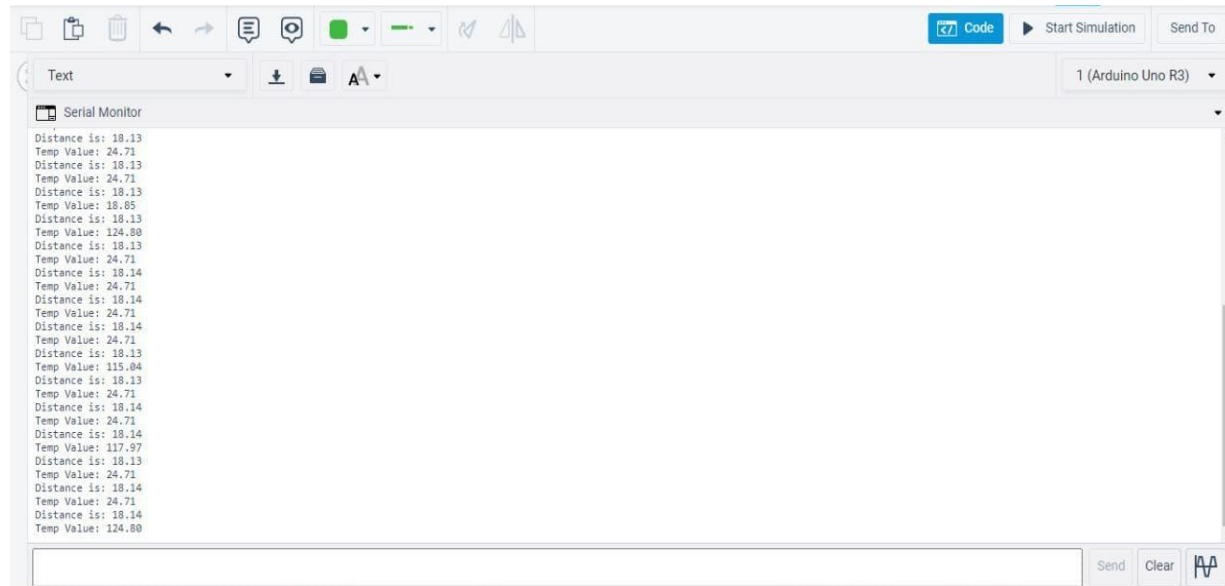
```
//LED ON
if(dis>=100)
//(in terms of centimeter)
{
digitalWrite(8,HIGH);
digitalWrite(7,HIGH);
}
```

```
//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)//(in terms of celsius)
{
  digitalWrite(8,HIGH);
  digitalWrite(7,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(8,LOW);
  digitalWrite(7,LOW);
}
}
```

OUTPUT:



### TINKERCAD LINK:

[https://www.tinkercad.com/things/0hRmwcG3Nm2-brave-stantia/editel?sharecode=m0yCbud\\_kwXyRuUO8XnLh2b381wgqYCArOAiKKVnnXk](https://www.tinkercad.com/things/0hRmwcG3Nm2-brave-stantia/editel?sharecode=m0yCbud_kwXyRuUO8XnLh2b381wgqYCArOAiKKVnnXk)