IBM-NALAYATHIRAN

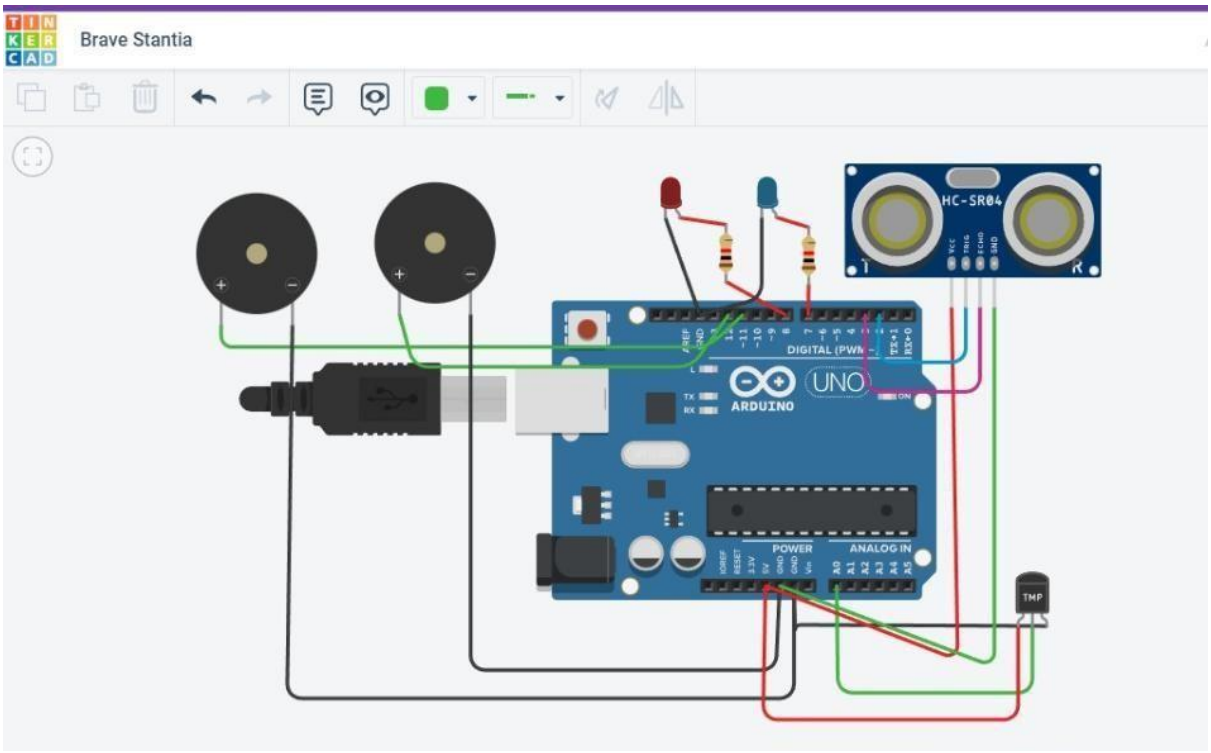
DOMAIN: IoT

ASSIGNMENT 1:SMART HOME

By

SHERLIN BEAULA.S.B

Circuit Diagram:



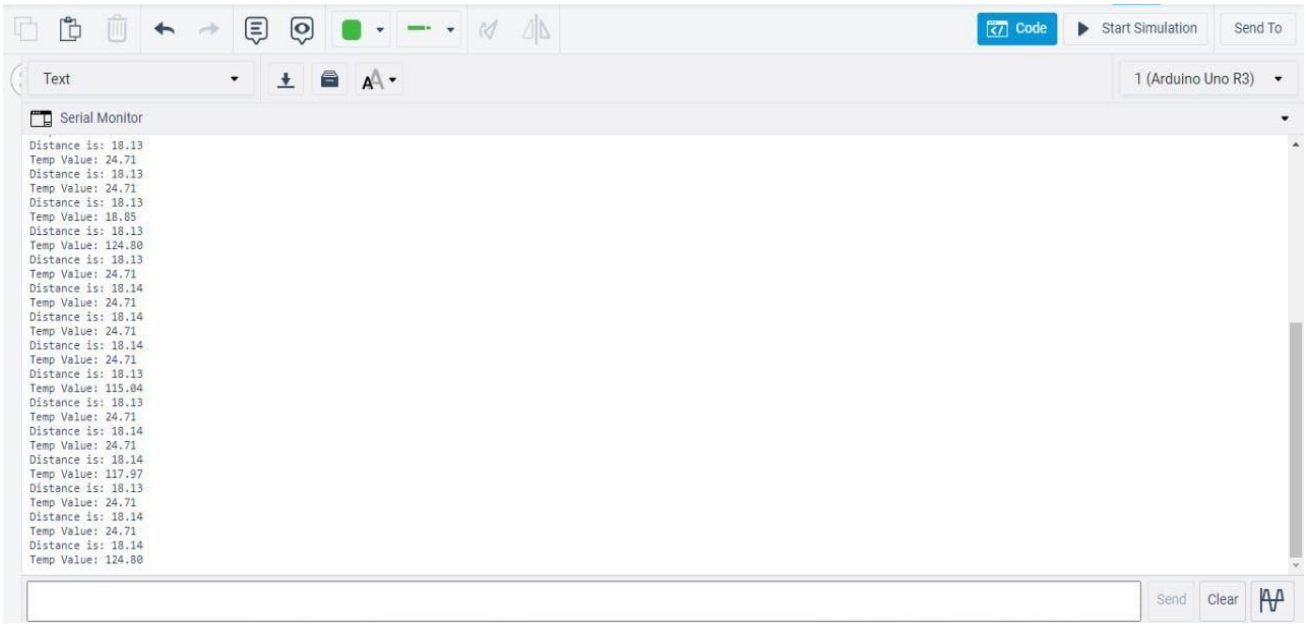
Code:

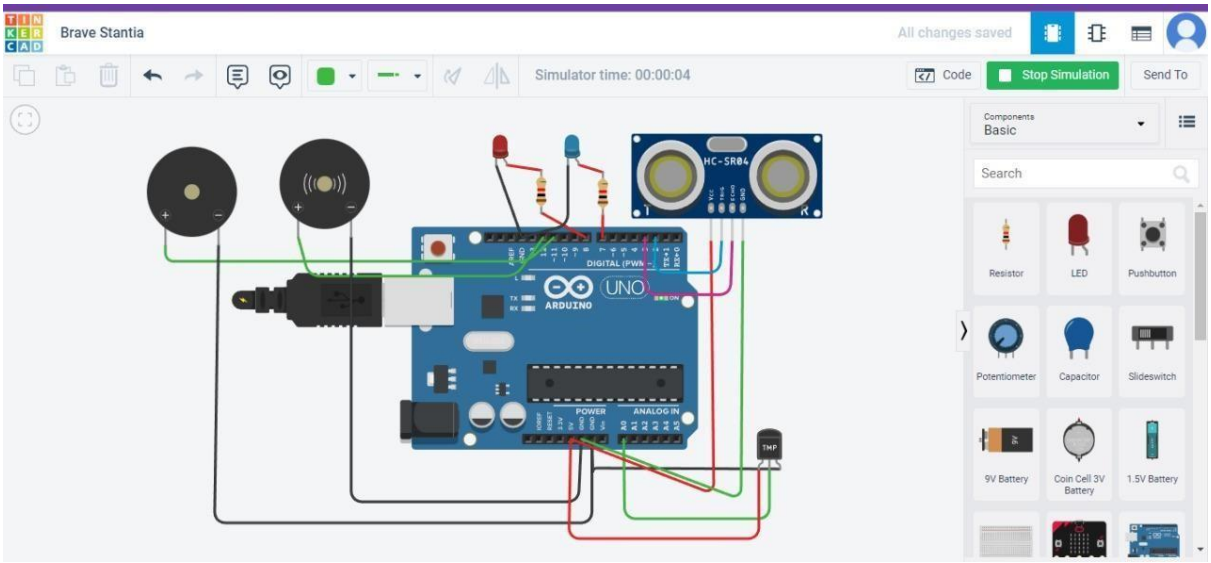
```
int t=2;
 int e=3;
void setup()
{
 Serial.begin(9600);
pinMode(t,OUTPUT);
pinMode(e,INPUT);
pinMode(12,OUTPUT);
}
void loop()
{
 //ultrasonic sensor
digitalWrite(t,LOW);
```

```
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_kwXyRuUO8XnLH2b381wqzYCArOAiKKVnnXk

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DOMAIN-IOT

ASSIGNMENT 2- TEMPERATURE AND HUMIDITY SENSING AND ALARM AUTOMATION USING PYTHON

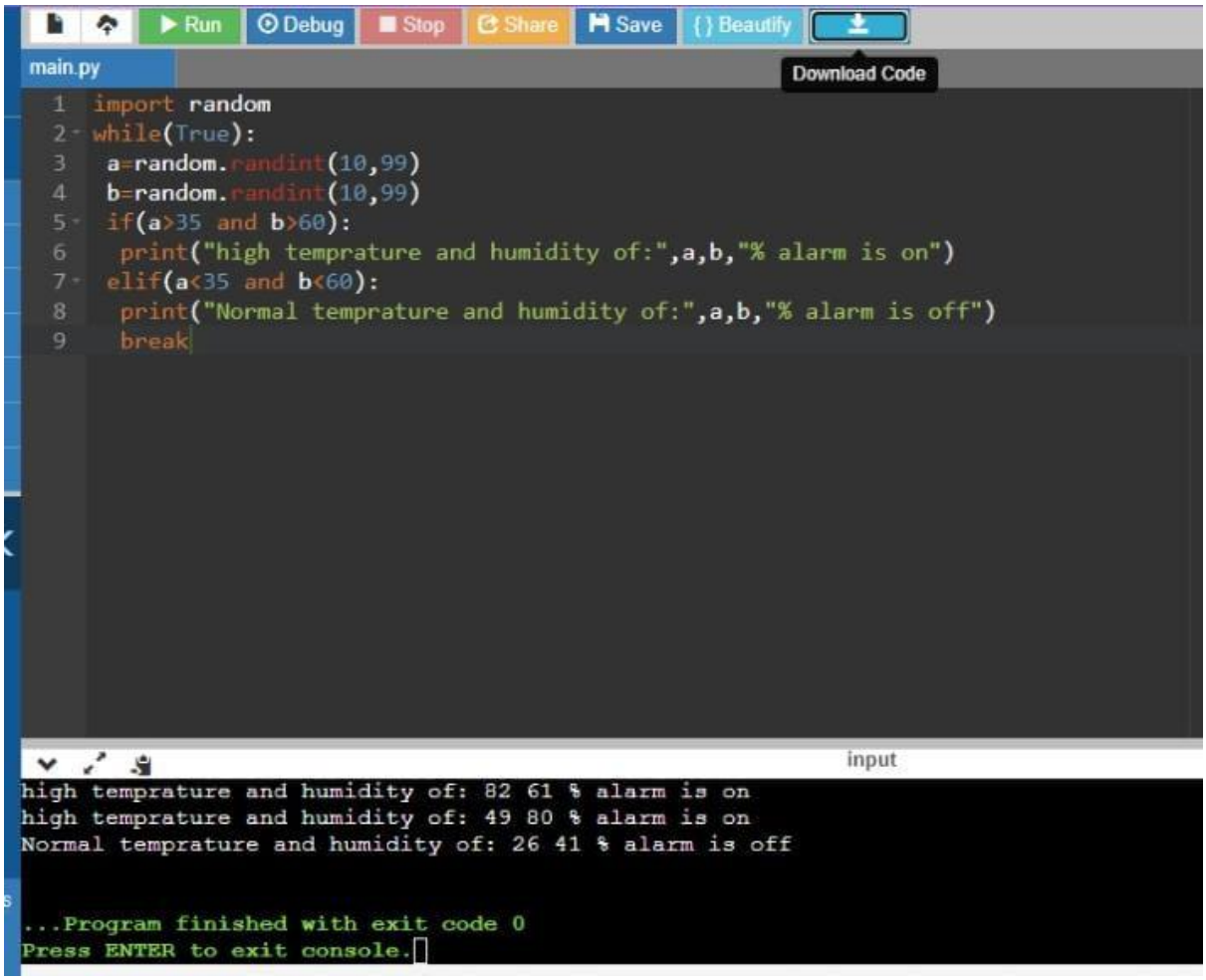
BY

SHERLIN BEAULA. S.B

CODE:

```
import random
while(True):
  a=random.randint(10,99)
  b=random.randint(10,99)
  if(a>35 and b>60):
     print("high temprature and humidity of:",a,b,"% alarm is on")
  elif(a<35 and b<60):
     print("Normal temprature and humidity of:",a,b,"% alarm is off")
     break
```

OUTPUT:



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OUTPUT: