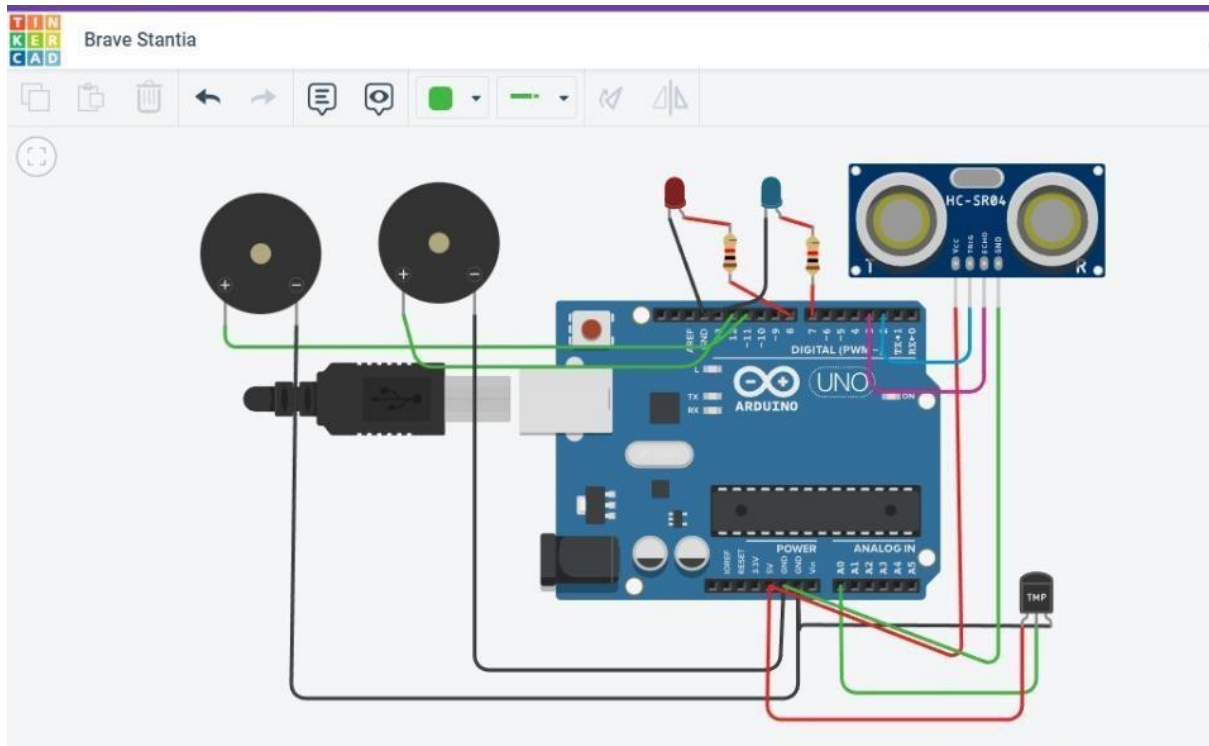


IBM-NALAYATHIRAN
DOMAIN: IoT
ASSIGNMENT 1:SMART HOME

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);
}

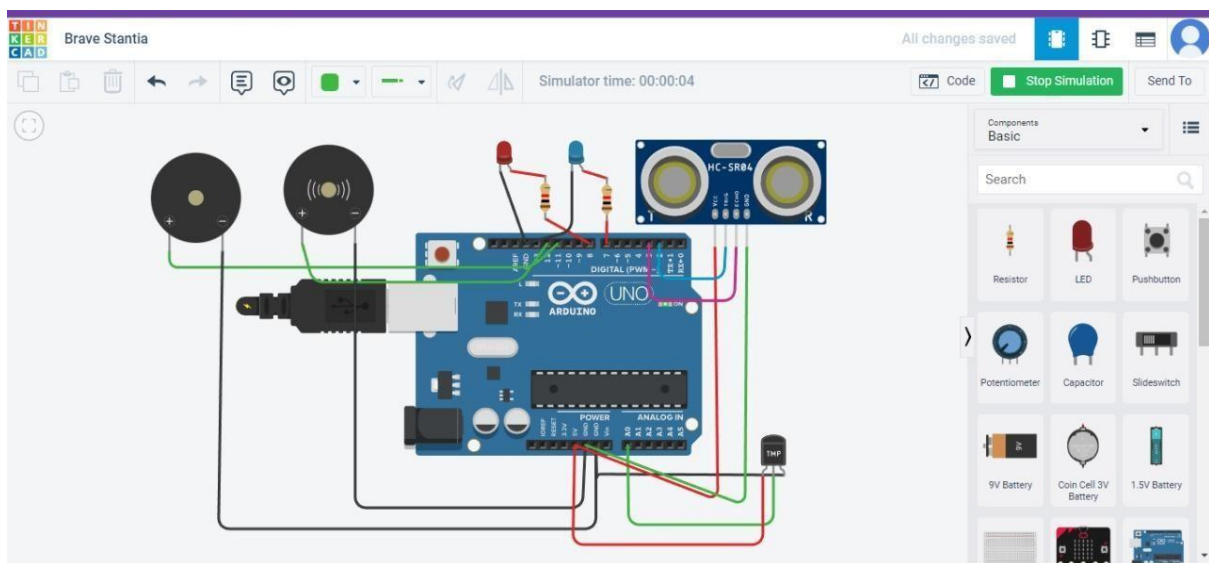
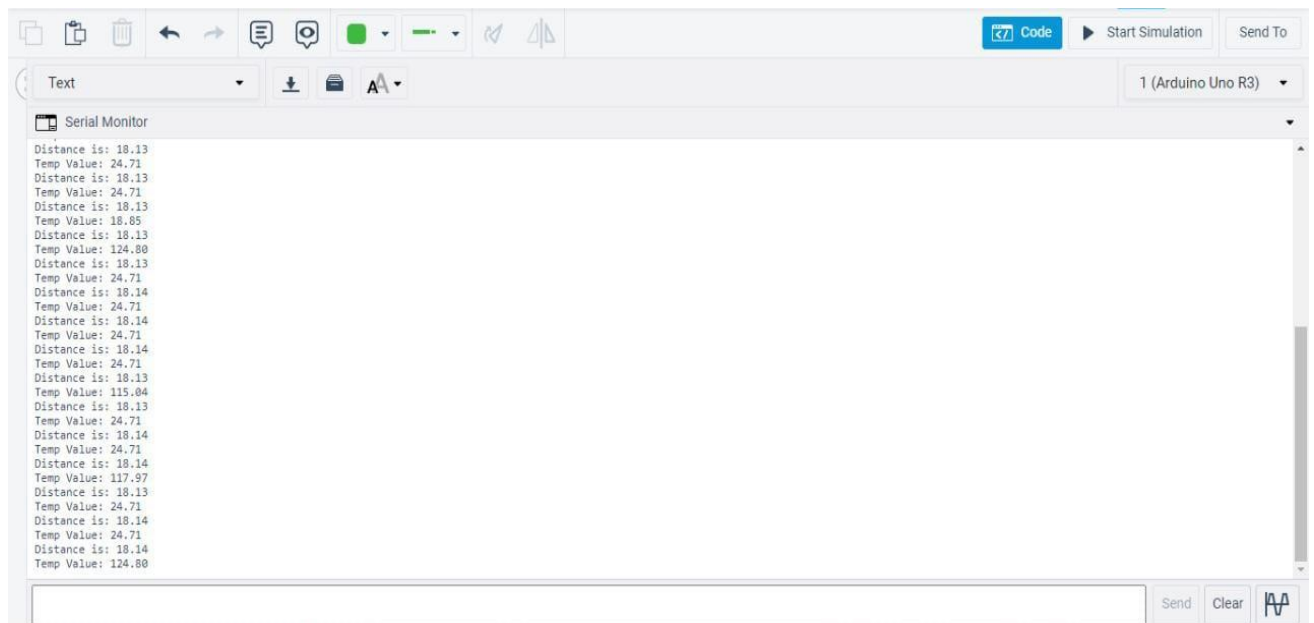
//Buzzer For ultrasonic Sensor
if(dis>=100)
{
for(int i=0; i<=30000; i=i+10)
{
tone(12,i);
delay(1000);
noTone(12);
delay(1000);
}
}

//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_kwXyRuUO8XnLH2b381wgqYCArOAiKKVnnXk

IBM-NALAYATHIRAN

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):

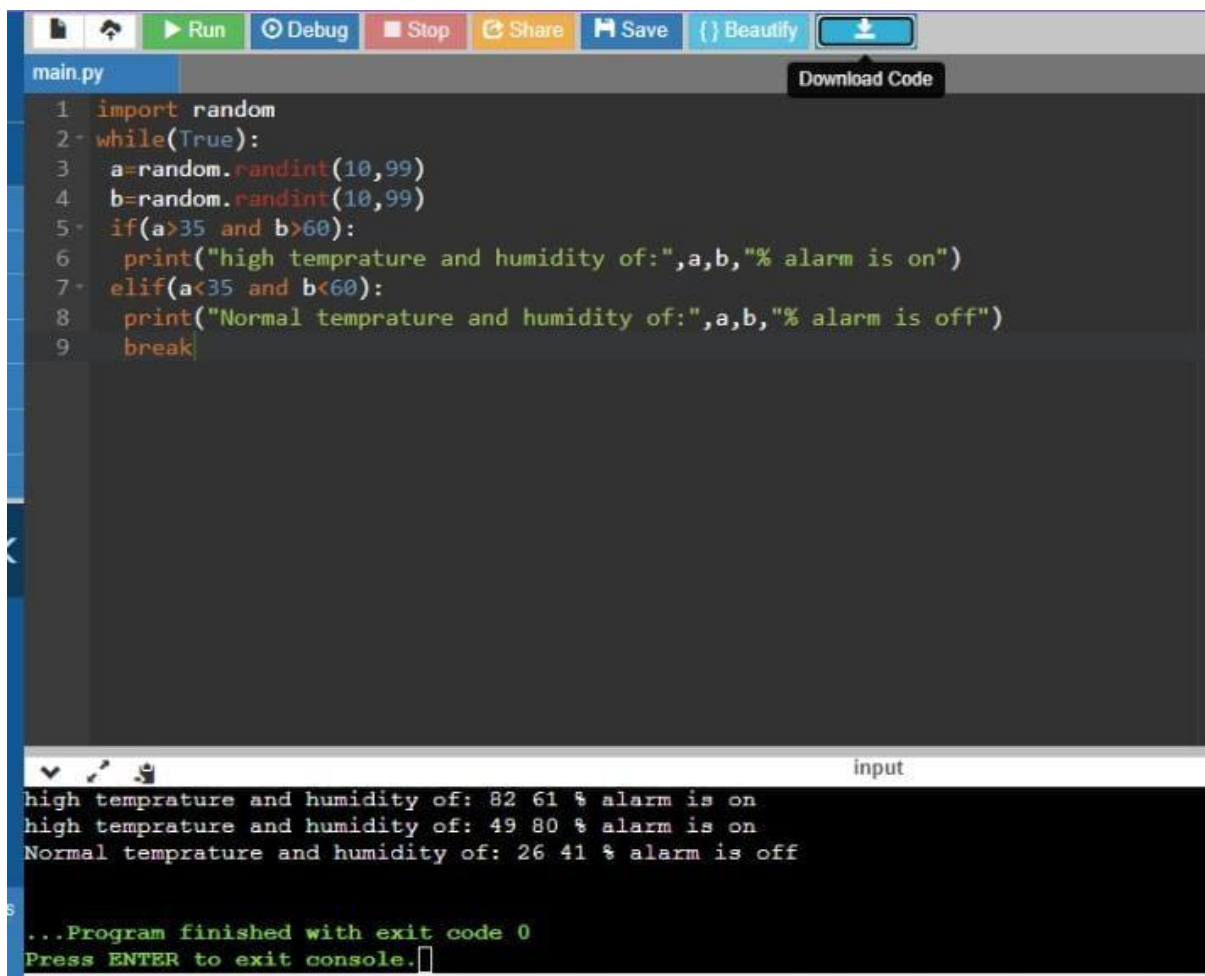
        print("high temprature and humidity of:",a,b,"% alarm is on")

    elif(a<35 and b<60):

        print("Normal temprature and humidity of:",a,b,"% alarm is off")

    break
```

OUTPUT:



The screenshot shows a code editor with a toolbar at the top containing buttons for Run, Debug, Stop, Share, Save, Beautify, and Download Code. The code editor displays the same Python code as shown in the previous block. Below the code editor is a console window with the following output:

```
high temprature and humidity of: 82 61 % alarm is on
high temprature and humidity of: 49 80 % alarm is on
Normal temprature and humidity of: 26 41 % alarm is off

...Program finished with exit code 0
Press ENTER to exit console.
```

IBM-NALAYATHIRAN

DOMAIN-IOT

ASSIGNMENT 2- TEMPERATURE AND HUMIDITY
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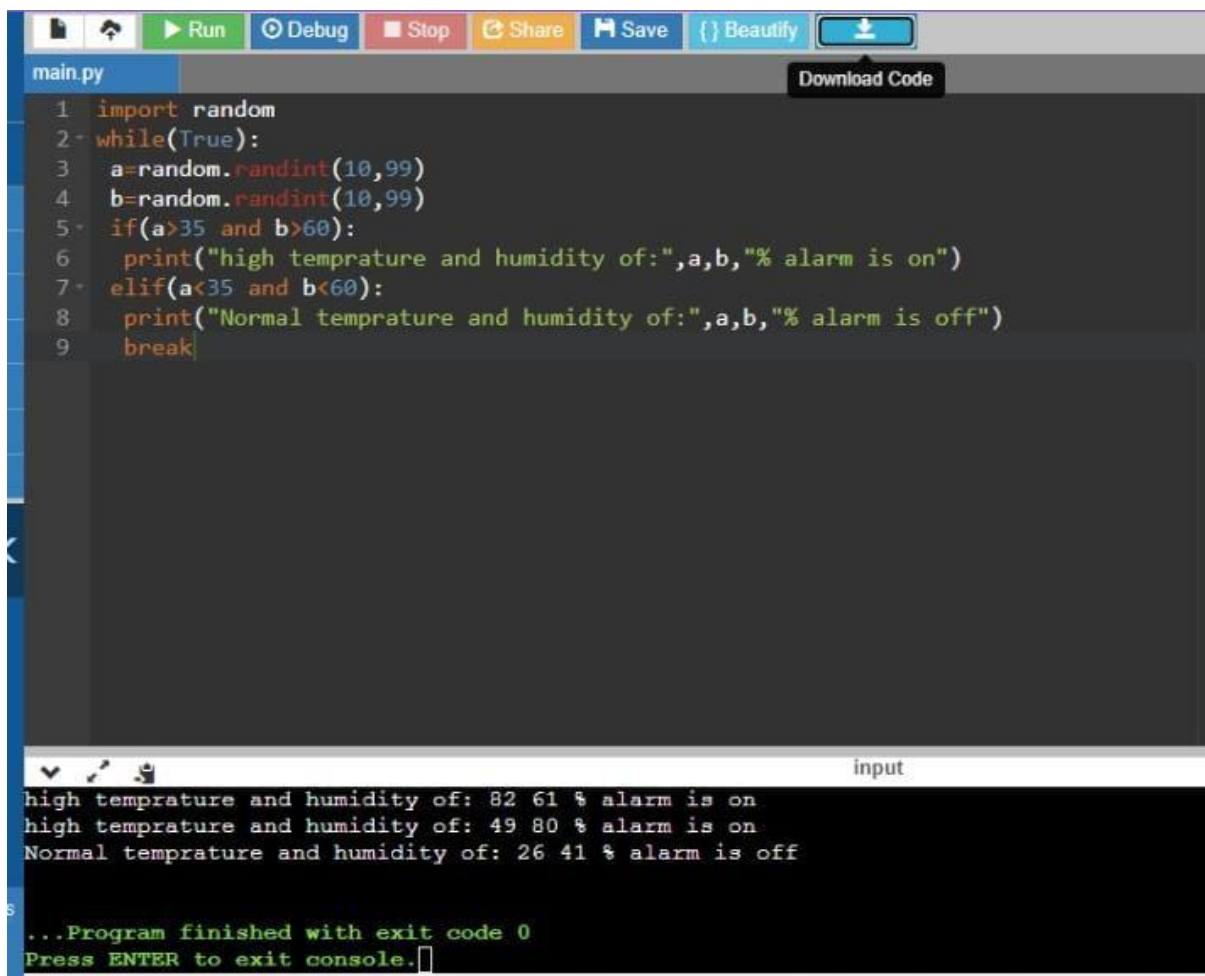
        print("high temprature and humidity of:",a,b,"% alarm is on")

    elif(a<35 and b<60):

        print("Normal temprature and humidity of:",a,b,"% alarm is off")

    break
```

OUTPUT:



The screenshot shows a code editor with a toolbar at the top containing buttons for Run, Debug, Stop, Share, Save, Beautify, and Download Code. The code editor displays the same Python code as in the previous block. Below the code editor is a console window with the following output:

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