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## ASSIGNMENT-2

IBM-PERSONAL ASSISTANCE FOR PEOPLE WHO ARE SELF-RELIANT  
SONA COLLEGE OF TECHNOLOGY

### PROBLEM STATEMENT:

Build a python code, Assume u get temperature and humidity values(generated with random function to a variable) and write a condition to continuously detect alarm in case of high temperature.

### CODE:

```
import random

import winsound

import sys

freq=440

duration=10000

while(True):

    temperature=random.randint(10,100)

    humidity=random.randint(10,100)

    print("Current Temperature=",temperature)

    print("Current Humidity=",humidity,'%')

    stable_temperature=37

    stable_humidity=45

    if temperature>stable_temperature and humidity>stable_humidity:

        print("High Temperature BEEP ALARM")

        winsound.Beep(freq,duration)

    else:

        print("Everything Fine NO ALARM")

    sys.exit(100)
```

### CODE EXPLANATION:

RANDOM: module used to generate random values from (10-100) using randint for variables temperature and humidity

WINSOUND: module is used to create beep with duration and frequency variables(it does beep within given duration and certain frequency)

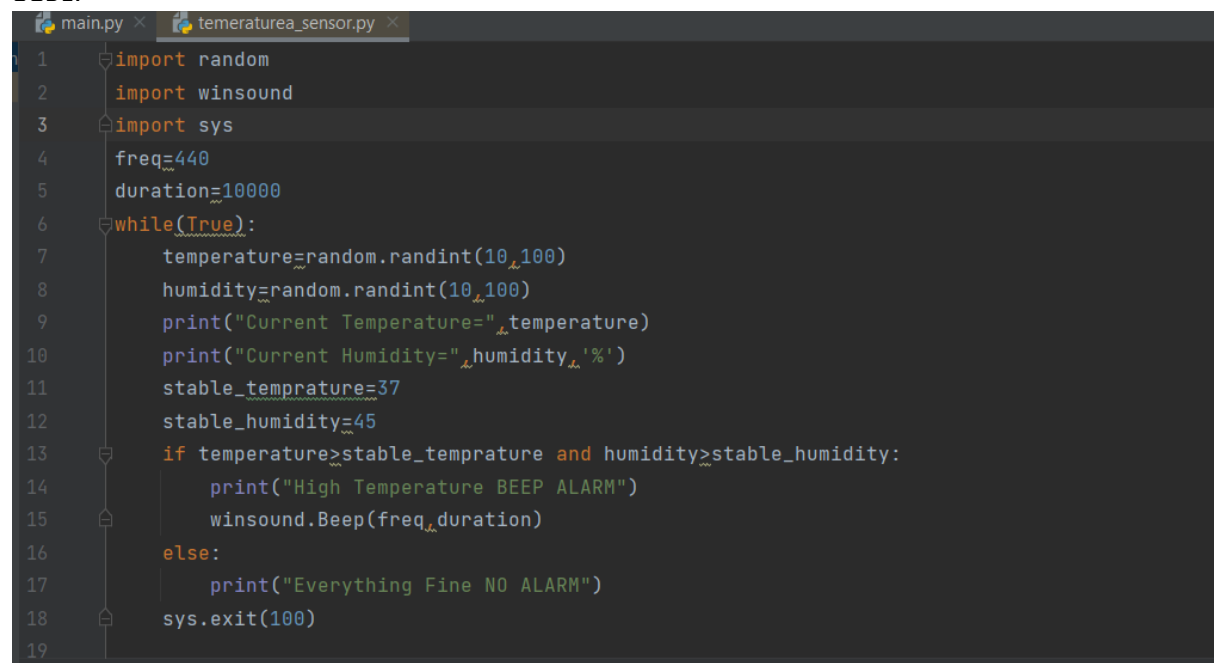
SYS: module used to clear memory and exit correctly once program completes execution

WHAT PROGRAM DOES:

The program gets random values from random module for temperature and humidity and checks condition with fixed value of humidity(good range(30-45)) and temperature(ideal range(25-37)) and beeps if temperature is above the fixed level using winsound.

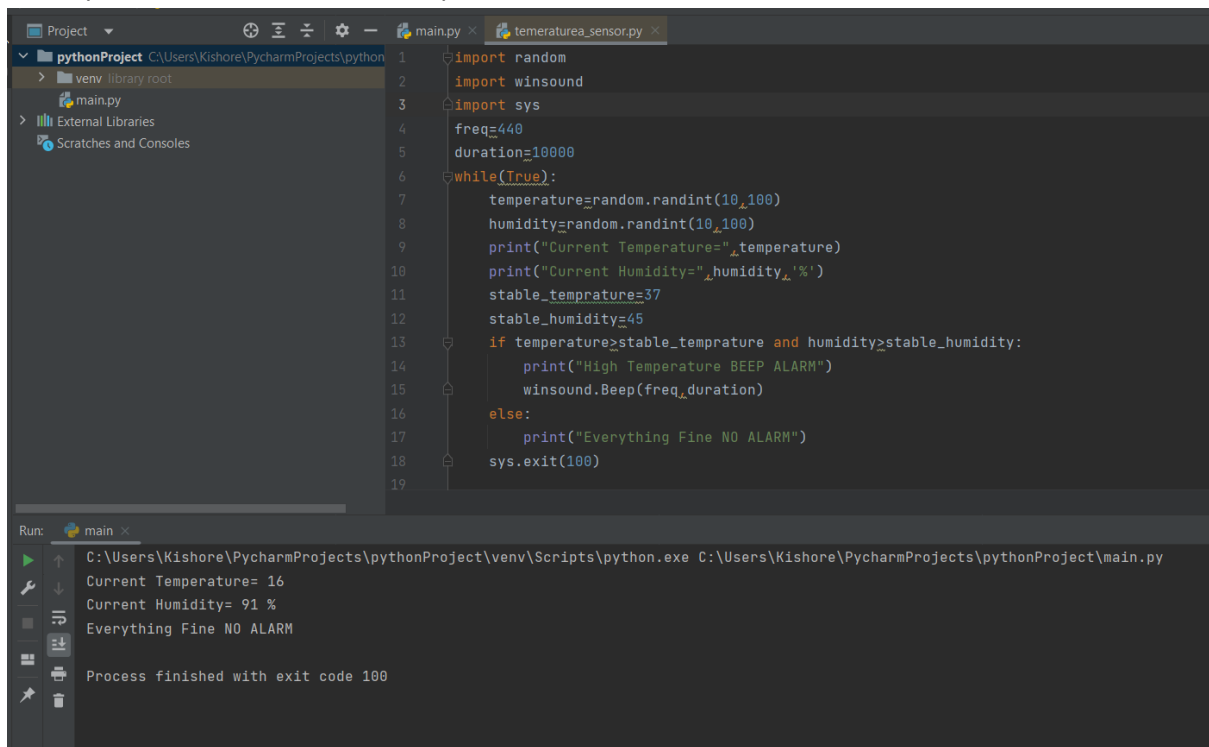
RESULT:

CODE:

A screenshot of a Python IDE with two tabs: 'main.py' and 'temeraturea\_sensor.py'. The 'temeraturea\_sensor.py' tab is active, showing a Python script. The script imports 'random', 'winsound', and 'sys'. It sets 'freq=440' and 'duration=10000'. A 'while(True):' loop generates random temperature and humidity values, prints them, and checks if temperature is greater than 37 and humidity is greater than 45. If so, it prints 'High Temperature BEEP ALARM' and calls 'winsound.Beep(freq,duration)'. Otherwise, it prints 'Everything Fine NO ALARM'. The loop ends with 'sys.exit(100)'.

```
1 import random
2 import winsound
3 import sys
4 freq=440
5 duration=10000
6 while(True):
7     temperature=random.randint(10,100)
8     humidity=random.randint(10,100)
9     print("Current Temperature=",temperature)
10    print("Current Humidity=",humidity,'%')
11    stable_temprature=37
12    stable_humidity=45
13    if temperature>stable_temprature and humidity>stable_humidity:
14        print("High Temperature BEEP ALARM")
15        winsound.Beep(freq,duration)
16    else:
17        print("Everything Fine NO ALARM")
18    sys.exit(100)
19
```

## CASE1:(NO ALARM SAFE TEMPERATURE)



```
1 import random
2 import winsound
3 import sys
4 freq=440
5 duration=10000
6 while(True):
7     temperature=random.randint(10,100)
8     humidity=random.randint(10,100)
9     print("Current Temperature=",_temperature)
10    print("Current Humidity=",_humidity,'%')
11    stable_temperature=37
12    stable_humidity=45
13    if temperature>stable_temprature and humidity>stable_humidity:
14        print("High Temperature BEEP ALARM")
15        winsound.Beep(freq,duration)
16    else:
17        print("Everything Fine NO ALARM")
18    sys.exit(100)
19
```

Run: main ×

C:\Users\Kishore\PycharmProjects\pythonProject\venv\Scripts\python.exe C:\Users\Kishore\PycharmProjects\pythonProject\main.py

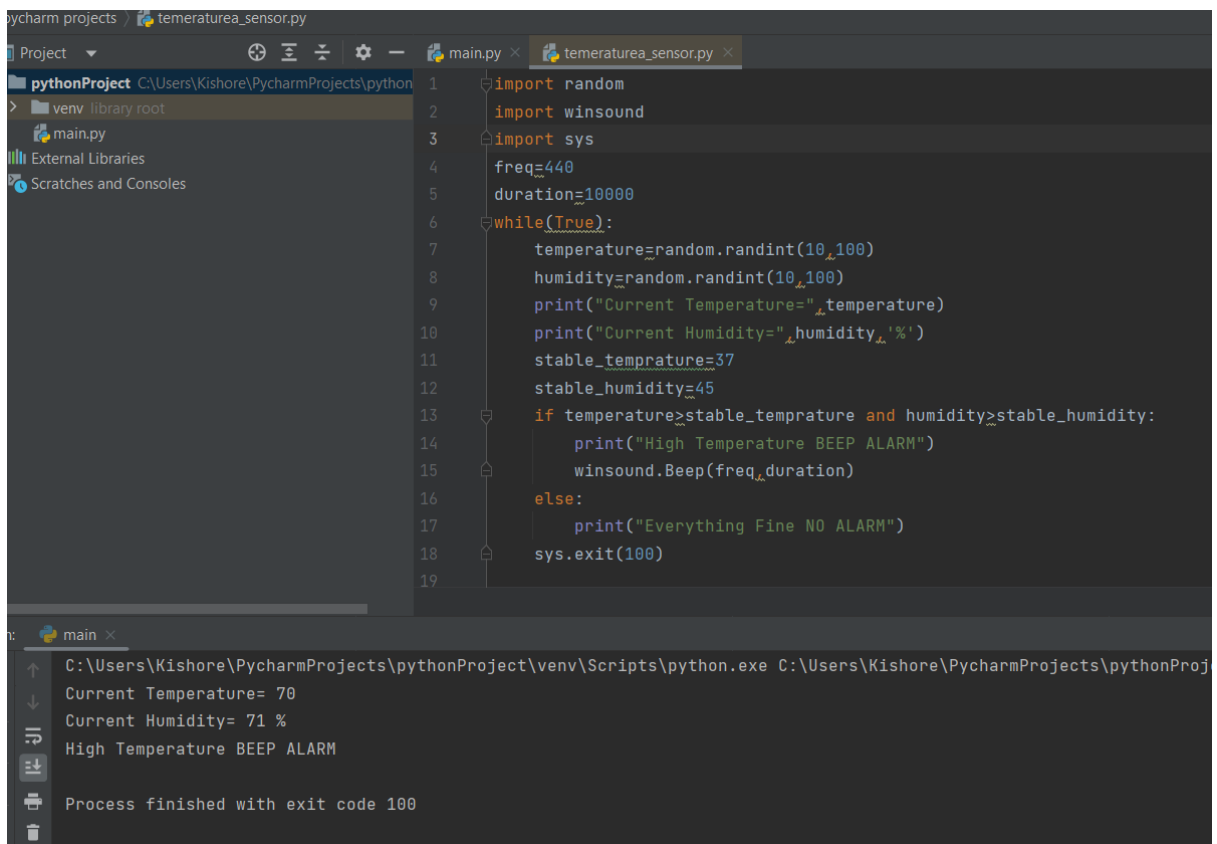
Current Temperature= 16

Current Humidity= 91 %

Everything Fine NO ALARM

Process finished with exit code 100

## CASE 2:HIGH TEMERATURE-ALARM BEEP



```
1 import random
2 import winsound
3 import sys
4 freq=440
5 duration=10000
6 while(True):
7     temperature=random.randint(10,100)
8     humidity=random.randint(10,100)
9     print("Current Temperature=",_temperature)
10    print("Current Humidity=",_humidity,'%')
11    stable_temperature=37
12    stable_humidity=45
13    if temperature>stable_temprature and humidity>stable_humidity:
14        print("High Temperature BEEP ALARM")
15        winsound.Beep(freq,duration)
16    else:
17        print("Everything Fine NO ALARM")
18    sys.exit(100)
19
```

Run: main ×

C:\Users\Kishore\PycharmProjects\pythonProject\venv\Scripts\python.exe C:\Users\Kishore\PycharmProjects\pythonProj

Current Temperature= 70

Current Humidity= 71 %

High Temperature BEEP ALARM

Process finished with exit code 100