

Assignment -2
Python Programming

Assignment Date	08 NOVEMBER 2022
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Maximum Marks	2 Marks

Question-1:

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.

Solution:

```
import random
import time
while(1):
    temp=random.randint(0,80)
    hum=random.randint(0,80)
    if(15<=temp<=30):                #room temperature in degrees Celsius between
15C - 30C
        print("Temperature is normal. Temperature = ",temp)
    elif(temp<15):
        print("Temperature is too low. Temperature = ",temp)
    elif(temp>30):
        print("Temperature is too high. Temperature = ",temp)
    if(30<=hum<=50):                #humidity may percentage between 30% - 50%
        print("Humidity is normal. Humidity = ",hum)
    elif(hum<30):
        print("Very less humidity. Humidity = ",hum)
    elif(hum>50):
        print("Very high humidity. Humidity = ",hum)
    print()
    time.sleep(2)                    #It observe temperature every 2 seconds
```

SAMPLE INPUT AND OUTPUT :

The screenshot displays a Python IDE with a project named '2python'. The file 'Assignment_2.py' is open, showing a script that generates random temperature and humidity values and prints status messages based on predefined ranges. The script uses a while loop and time.sleep() to simulate a continuous monitoring process.

```
1 import random
2 import time
3 while(1):
4     temp=random.randint(0,80)
5     hum=random.randint(0,80)
6     if(15<=temp<=30):
7         print('Temperature is normal. Temperature = ',temp)
8     elif(temp<15):
9         print('Temperature is too low. Temperature = ',temp)
10    elif(temp>30):
11        print('Temperature is too high. Temperature = ',temp)
12    if(30<=hum<=50):
13        print('Humidity is normal. Humidity = ',hum)
14    elif(hum<30):
15        print('Very less humidity. Humidity = ',hum)
16    elif(hum>50):
17        print('Very high humidity. Humidity = ',hum)
18    print()
19    time.sleep(2)
20 while(1):
```

The Run console shows the output of the script, which prints the temperature and humidity status every 2 seconds. The output is as follows:

```
"D:\coding in (c,java,python)\projects in python\2python\venv\Scripts\python.exe" "D:/coding in (c,java,python)/projects in python/2python/Assignment_2.py"
Temperature is normal. Temperature = 21
Humidity is normal. Humidity = 37

Temperature is too high. Temperature = 60
Very less humidity. Humidity = 20

Temperature is too low. Temperature = 6
Very less humidity. Humidity = 21

Temperature is too high. Temperature = 53
Very high humidity. Humidity = 62

Temperature is too low. Temperature = 12
Humidity is normal. Humidity = 50

Temperature is too high. Temperature = 60
Very high humidity. Humidity = 78
```