

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 explorer on the left shows a directory structure with various Python files, including 'Assignment_2.py'. The main editor window shows the code for 'Assignment_2.py', which uses the 'random' module to generate random temperature and humidity values. The code includes conditional statements to check if the temperature is normal, too low, or too high, and if the humidity is normal, very less, or very high. The output window at the bottom shows the results of the script's execution, displaying the generated values and the corresponding status messages.

```
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):
```

Run: Assignment_2

```
"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
```