

Assignment -2
Python Programming

Assignment Date	24 September 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 image shows a screenshot of a code editor (likely VS Code) with a Python file named `Assignment_2.py` open. The code is a script that simulates monitoring temperature and humidity over time. It uses `random` and `time` modules. A `while` loop runs indefinitely, generating random temperature and humidity values. It uses `if` and `elif` statements to categorize these values and print messages. Comments explain the ranges for 'normal' and 'too high' values. A `time.sleep(2)` is used to simulate a 2-second observation interval.

```
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<=50): #room temperature in degrees Celsius between 15C - 30C
7         print("Temperature is normal. Temperature = ",temp)
8     elif(temp<15):
9         print("Temperature is too low. Temperature = ",temp)
10    elif(temp>50):
11        print("Temperature is too high. Temperature = ",temp)
12    if(30<=hum<=50): #humidity may percentage between 30% - 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) #it observe temperature every 2 seconds
20 while(1)
```

The Run console at the bottom shows the output of the script, displaying alternating messages for temperature and humidity status over several iterations.

```
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
```

The bottom status bar indicates the file encoding is UTF-8, it has 4 spaces, and it is using Python 3.10 (2python).