

ASSIGNMENT 2
PYTHON CODE TO MONITOR TEMPERATURE
AND HUMIDITY

Assignment Date	29-09-2022
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Maximum Marks	2 Marks

QUESTION:

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

Solution:

```
import random

import time

def Temp_Humidity_Monitor():

    humidity=random.randint(0,100)

    temp=random.random()*100

    temp_format="{:.2f}".format(temp)

    if(temp>45 and humidity>55 ):

        print("Humidity is ",humidity,end="% ")

        print("\nTemperature is ",temp_format,end=" deg celsius")

        print("\nTemperature is high...Humans can't withstand this")

    elif((humidity>30 and humidity<55) and (temp<45 and temp>18)):

        print("\nEverything looks Fine")

while True:

    print("*****Calculating Temperature and Humidity*****")


    Temp_Humidity_Monitor()
```

```
time.sleep(3)

print("-----END-----");

print("\n\n")
```

SIMULATED OUTPUT:



The screenshot shows a Python IDE window titled "ass2.py - F:/PYTHON EXERCISES/ass2.py (3.7.0)". The menu bar includes "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The code editor contains the following Python code:

```
import random
import time

def Temp_Humidity_Monitor():
    humidity=random.randint(0,100)
    temp=random.random()*100
    temp_format="{:.2f}".format(temp)

    if(temp>45 and humidity>55 ):
        print("Humidity is ",humidity,end="%")
        print("\nTemperature is ",temp_format,end=" deg celsius")
        print("\nTemperature is high...Humans can't withstand this")

    elif((humidity>30 and humidity<55) and (temp<45 and temp>18)):
        print("\nEverything looks Fine")

while True:
    print("*****Calculating Temperature and Humidity*****")
    Temp_Humidity_Monitor()
    time.sleep(3)
    print("-----END-----");
    print("\n\n")
```

```
*Python 3.7.0 Shell*
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:/PYTHON EXERCISES/ass2.py =====
****Calculating Temperature and Humidity****
-----END-----

****Calculating Temperature and Humidity****
Humidity is 99%
Temperature is 50.62 deg celsius
Temperature is high...Humans can't withstand this
-----END-----

****Calculating Temperature and Humidity****
Humidity is 92%
Temperature is 98.05 deg celsius
Temperature is high...Humans can't withstand this
-----END-----

****Calculating Temperature and Humidity****
-----END-----

****Calculating Temperature and Humidity****
Humidity is 97%
Temperature is 82.05 deg celsius
Temperature is high...Humans can't withstand this
|
```

```
*Python 3.7.0 Shell*
File Edit Shell Debug Options Window Help

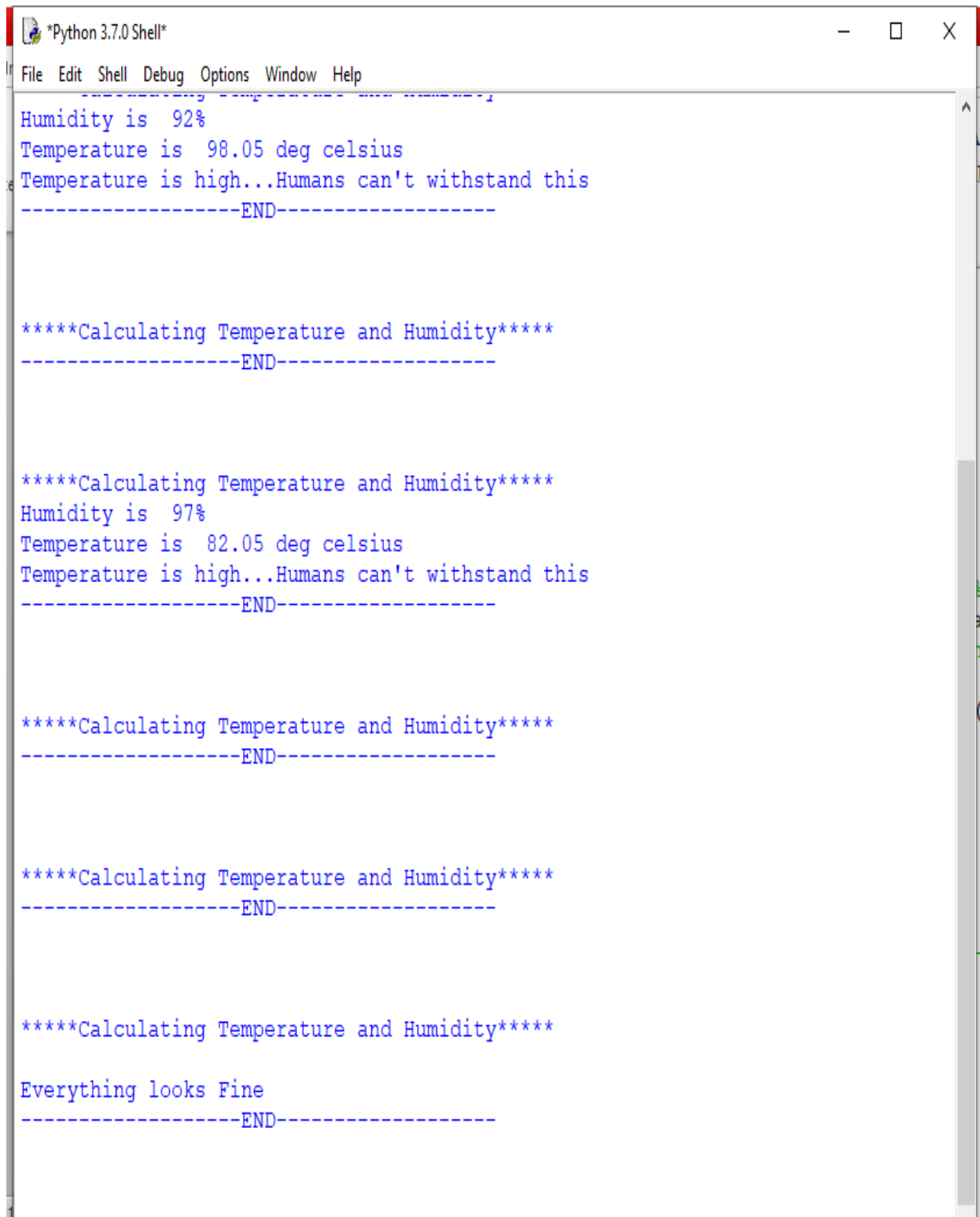
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:/PYTHON EXERCISES/ass2.py =====
****Calculating Temperature and Humidity****
-----END-----

****Calculating Temperature and Humidity****
Humidity is 99%
Temperature is 50.62 deg celsius
Temperature is high...Humans can't withstand this
-----END-----

****Calculating Temperature and Humidity****
Humidity is 92%
Temperature is 98.05 deg celsius
Temperature is high...Humans can't withstand this
-----END-----

****Calculating Temperature and Humidity****
-----END-----

****Calculating Temperature and Humidity****
Humidity is 97%
Temperature is 82.05 deg celsius
Temperature is high...Humans can't withstand this
-----END-----
```



```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

-----
Humidity is 92%
Temperature is 98.05 deg celsius
Temperature is high...Humans can't withstand this
-----END-----

*****Calculating Temperature and Humidity*****
-----END-----

*****Calculating Temperature and Humidity*****
Humidity is 97%
Temperature is 82.05 deg celsius
Temperature is high...Humans can't withstand this
-----END-----

*****Calculating Temperature and Humidity*****
-----END-----

*****Calculating Temperature and Humidity*****
-----END-----

*****Calculating Temperature and Humidity*****
Everything looks Fine
-----END-----
```

CONCLUSION:

Thus the python code is built to monitor temperature and humidity of the environment using random functions. The measurement is done continuously and an alarm message is send to the user if the temperature and humidity exceeds the limit.