

## Assignment 2

### Temperature and humidity monitoring using python

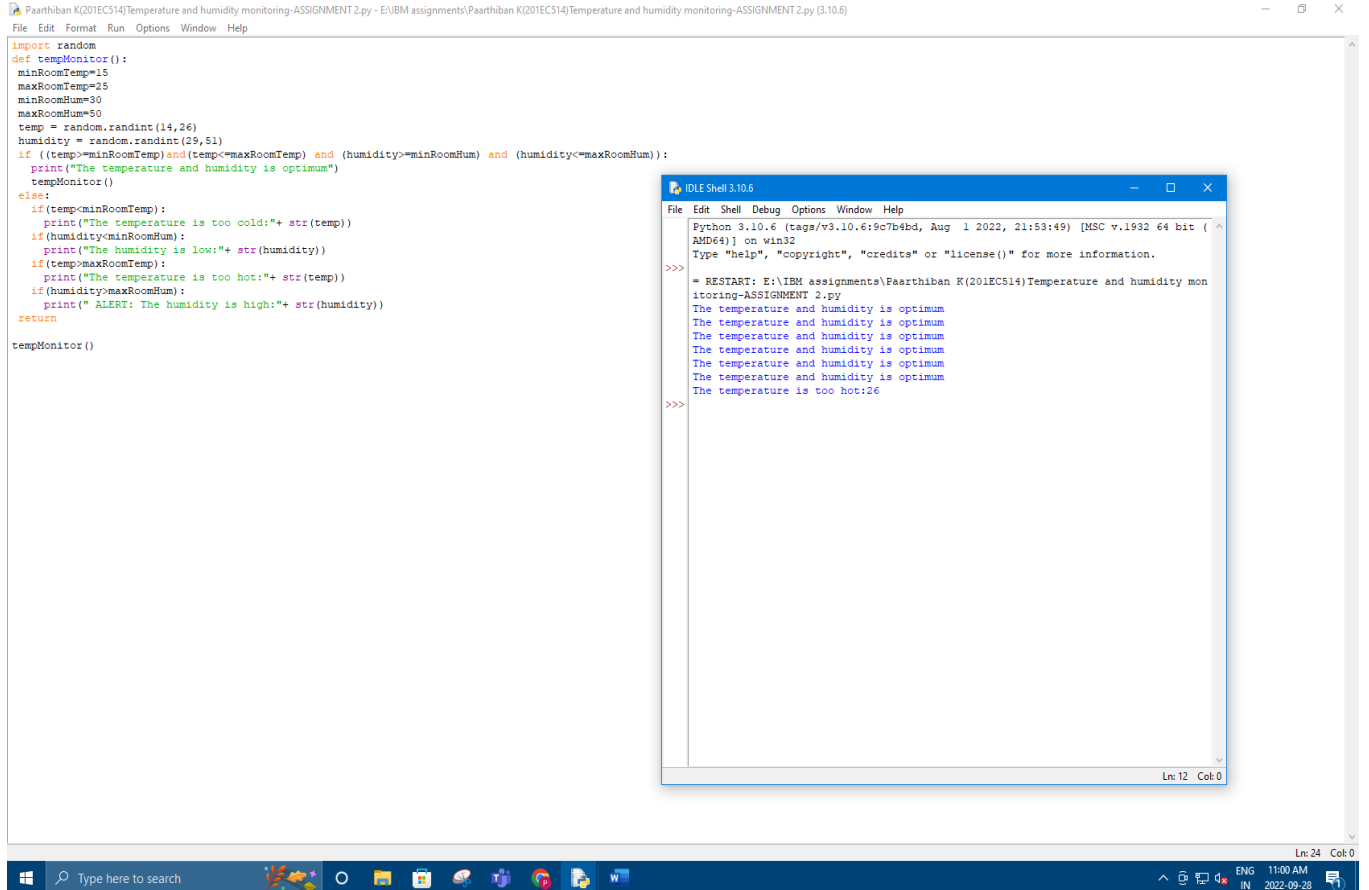
#### **Python code:**

```
import random

def tempMonitor():
    minRoomTemp=15
    maxRoomTemp=25
    minRoomHum=30
    maxRoomHum=50
    temp = random.randint(14,26)
    humidity = random.randint(29,51)
    if ((temp>=minRoomTemp)and(temp<=maxRoomTemp) and (humidity>=minRoomHum) and
(humidity<=maxRoomHum)):
        print("The temperature and humidity is optimum")
        tempMonitor()
    else:
        if(temp<minRoomTemp):
            print("The temperature is too cold:" + str(temp))
        if(humidity<minRoomHum):
            print("The humidity is low:" + str(humidity))
        if(temp>maxRoomTemp):
            print("The temperature is too hot:" + str(temp))
        if(humidity>maxRoomHum):
            print(" ALERT: The humidity is high:" + str(humidity))
    return
```

tempMonitor()

## IDLE OUTPUT:



```
Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py - E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py (3.10.6)
File Edit Format Run Options Window Help

import random
def tempMonitor():
    minRoomTemp=15
    maxRoomTemp=25
    minRoomHum=30
    maxRoomHum=50
    temp = random.randint(14,26)
    humidity = random.randint(29,51)
    if ((temp>=minRoomTemp)and(temp<=maxRoomTemp) and (humidity>=minRoomHum) and (humidity<=maxRoomHum)):
        print("The temperature and humidity is optimum")
        tempMonitor()
    else:
        if (temp<minRoomTemp):
            print("The temperature is too cold:"+ str(temp))
        if (humidity<minRoomHum):
            print("The humidity is low:"+ str(humidity))
        if (temp>maxRoomTemp):
            print("The temperature is too hot:"+ str(temp))
        if (humidity>maxRoomHum):
            print(" ALERT: The humidity is high:"+ str(humidity))
    return


tempMonitor()

Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature is too hot:26
>>>
```

Ln: 24 Col: 0

Ln: 12 Col: 0

Windows taskbar: Type here to search, 11:00 AM, 2022-09-28



Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:45) [MSC v.1932 64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.

```
>>>
= RESTART: E:\IBM assignments\Paarthiban K(201EC514)\Temperature and humidity monitoring-ASSIGNMENT 2.py
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature is too cold:14
>>>
```

Ln: 16 Col: 0

```
import random
def tempMonitor():
    minRoomTemp=15
    maxRoomTemp=25
    minRoomHum=30
    maxRoomHum=50
    temp = random.randint(14,26)
    humidity = random.randint(29,51)
    if ((temp>minRoomTemp)and(temp<=maxRoomTemp) and (humidity>minRoomHum) and (humidity<=maxRoomHum)):
        print("The temperature and humidity is optimum")
        tempMonitor()
    else:
        if(temp<minRoomTemp):
            print("The temperature is too cold:"+ str(temp))
        if(humidity<minRoomHum):
            print("The humidity is low:"+ str(humidity))
        if(temp>maxRoomTemp):
            print("The temperature is too hot:"+ str(temp))
        if(humidity>maxRoomHum):
            print(" ALERT: The humidity is high:"+ str(humidity))
    return
tempMonitor()
```

Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.

```
>>> = RESTART: E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
ALERT: The humidity is high:51
>>>
```

Ln: 10 Col: 0

```
import random
def tempMonitor():
    minRoomTemp=15
    maxRoomTemp=25
    minRoomHum=30
    maxRoomHum=50
    temp = random.randint(14,26)
    humidity = random.randint(29,51)
    if ((temp>minRoomTemp)and (temp<maxRoomTemp) and (humidity>minRoomHum) and (humidity<maxRoomHum)):
        print("The temperature and humidity is optimum")
        tempMonitor()
    else:
        if(temp<minRoomTemp):
            print("The temperature is too cold:"+ str(temp))
        if(humidity<minRoomHum):
            print("The humidity is low:"+ str(humidity))
        if(temp>maxRoomTemp):
            print("The temperature is too hot:"+ str(temp))
        if(humidity>maxRoomHum):
            print(" ALERT: The humidity is high:"+ str(humidity))
    return
tempMonitor()
```

Python 3.10.6 (tags/v3.10.6:9c7b4bd, Aug 1 2022, 21:53:49) [MSC v.1932 64 bit (AMD64)] on win32

Type "help", "copyright", "credits" or "license()" for more information.

```
>>>
= RESTART: E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py
The humidity is low:29
The temperature is too hot:26
>>>
```

The image displays a Python IDE window titled "Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py (3.10.6)". The script defines a `tempMonitor()` function that generates random temperature and humidity values and prints status messages based on predefined ranges.

```
import random
def tempMonitor():
    minRoomTemp=15
    maxRoomTemp=25
    minRoomHum=30
    maxRoomHum=50
    temp = random.randint(14,26)
    humidity = random.randint(29,51)
    if ((temp>minRoomTemp)and(temp<=maxRoomTemp) and (humidity>=minRoomHum) and (humidity<=maxRoomHum)):
        print("The temperature and humidity is optimum")
        tempMonitor()
    else:
        if(temp<minRoomTemp):
            print("The temperature is too cold:"+ str(temp))
        if(humidity<minRoomHum):
            print("The humidity is low:"+ str(humidity))
        if(temp>maxRoomTemp):
            print("The temperature is too hot:"+ str(temp))
        if(humidity>maxRoomHum):
            print(" ALERT: The humidity is high:"+ str(humidity))
    return

tempMonitor()
```

The IDE's output window shows the execution results, including restart messages and status reports for multiple iterations of the `tempMonitor()` function.

```
>>>
= RESTART: E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py
The temperature and humidity is optimum
The temperature is too hot:26
>>>
= RESTART: E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py
The temperature and humidity is optimum
The temperature is too hot:26
ALERT: The humidity is high:51
>>>
= RESTART: E:\IBM assignments\Paarthiban K(201EC514)Temperature and humidity monitoring-ASSIGNMENT 2.py
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The temperature and humidity is optimum
The humidity is low:29
>>>
```

The status bar at the bottom indicates "Ln: 24 Col: 0".