

SPRINT-3

PYTHON CODE:

```
#importing Random function to generate the value
import random as rand

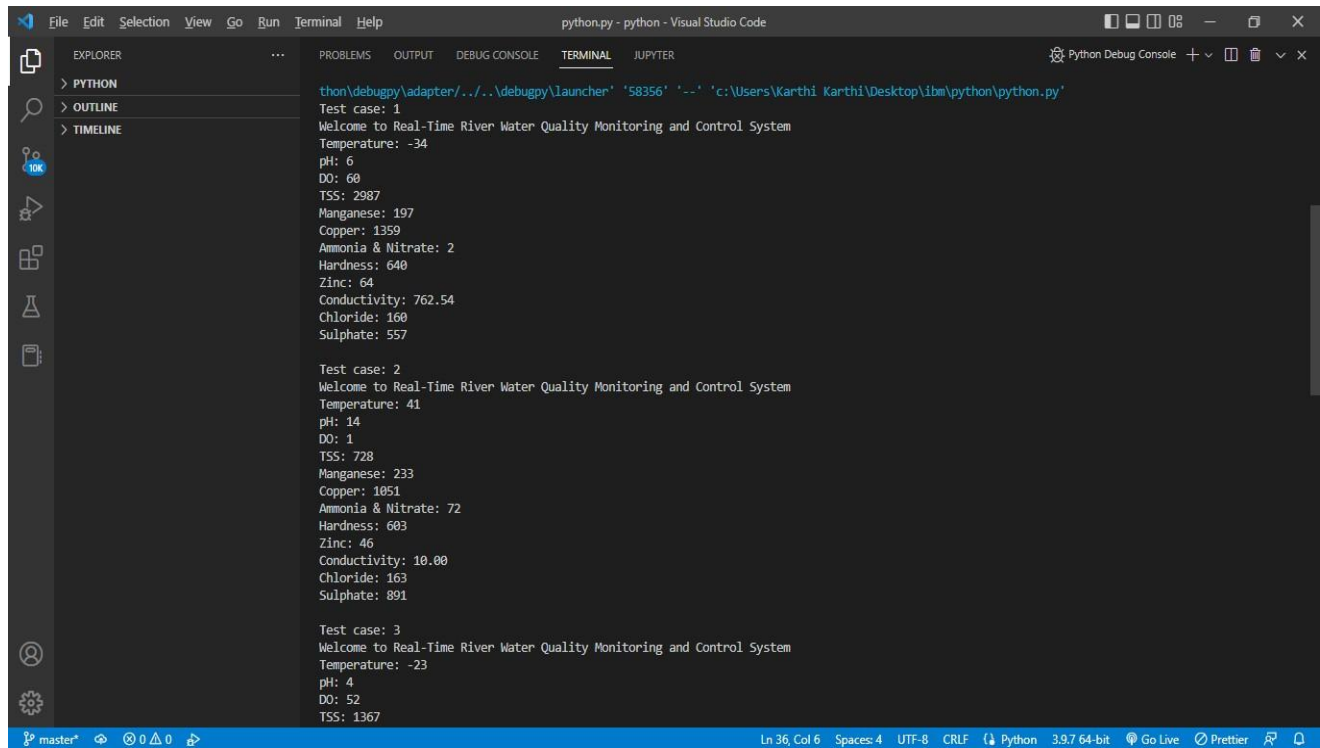
for i in range(5):
    print("Test case:",i+1)
    print("Welcome to Real-Time River Water Quality Monitoring and Control
System")
    temperature = int(rand.randint(-40,125))
    pH = int(rand.randint(0,14))
    DO = int(rand.randint(0,100))
    TSS = int(rand.randint(0,3700))
    Manganese = int(rand.randint(0,1000))
    Copper = int(rand.randint(0,2000))
    ammonia_Nitrate = int(rand.randint(0,100))
    Hardness = int(rand.randint(0,1000))
    Zinc = int(rand.randint(0,100))
    Conductivity = f"{float(rand.uniform(0.001,2000)):.2f}"
    Chloride = int(rand.randint(0,200))
    Sulphate = int(rand.randint(0,1000))
    #These variables store value of random data to be shared to the cloud

    #printing the values
    print(
        "Temperature:", temperature,
        "\npH:", pH,
```

```
"\nDO:", DO,  
"\nTSS:", TSS,  
"\nManganese:", Manganese,  
"\nCopper:", Copper,  
"\nAmmonia & Nitrate:", ammonia_Nitrate,  
"\nHardness:", Hardness,  
"\nZinc:", Zinc,  
"\nConductivity:", Conductivity,  
"\nChloride:", Chloride,  
"\nSulphate:", Sulphate, "\n"
```

```
)
```

OUTPUT:



The screenshot shows the Visual Studio Code interface with the 'TERMINAL' tab active. The terminal displays the output of a Python script named 'python.py'. The script is executed from the path 'thon\debugpy\adapter\..\..\debugpy\launcher' with arguments '58356' and '--'. The script's output is as follows:

```
thon\debugpy\adapter\..\..\debugpy\launcher' 58356' '--' 'c:\Users\Karthi Karthi\Desktop\ibm\python\python.py'
Test case: 1
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: -34
pH: 6
DO: 60
TSS: 2987
Manganese: 197
Copper: 1359
Ammonia & Nitrate: 2
Hardness: 640
Zinc: 64
Conductivity: 762.54
Chloride: 160
Sulphate: 557

Test case: 2
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: 41
pH: 14
DO: 1
TSS: 728
Manganese: 233
Copper: 1051
Ammonia & Nitrate: 72
Hardness: 603
Zinc: 46
Conductivity: 10.00
Chloride: 163
Sulphate: 891

Test case: 3
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: -23
pH: 4
DO: 52
TSS: 1367
```

The status bar at the bottom indicates the file is named 'master*', the cursor is at line 36, column 6, and the file encoding is UTF-8. The Python version is 3.9.7 64-bit, and the Prettier extension is installed.

This screenshot shows the VS Code interface with the terminal panel active. The Explorer sidebar on the left shows a file named 'python.py' under a 'PYTHON' folder. The terminal displays the output of a Python script, showing three test cases. Each test case starts with a 'Welcome to Real-Time River Water Quality Monitoring and Control System' message, followed by a temperature value and a list of water quality parameters.

```
python.py - python - Visual Studio Code

EXPLORER
> PYTHON
  python.py
> OUTLINE
> TIMELINE

Test case: 3
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: -23
pH: 4
DO: 52
TSS: 1367
Manganese: 111
Copper: 369
Ammonia & Nitrate: 75
Hardness: 894
Zinc: 20
Conductivity: 1142.33
Chloride: 11
Sulphate: 921

Test case: 4
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: 44
pH: 6
DO: 31
TSS: 1925
Manganese: 923
Copper: 1015
Ammonia & Nitrate: 10
Hardness: 984
Zinc: 76
Conductivity: 114.95
Chloride: 28
Sulphate: 977

Test case: 5
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: 23
pH: 7
DO: 31
TSS: 2959
```

master* 0 0 0 0 Ln 36, Col 6 Spaces: 4 UTF-8 CRLF Python 3.9.7 64-bit Go Live Prettier

This screenshot shows the VS Code interface with the terminal panel active. The Explorer sidebar on the left shows a file named 'python.py' under a 'PYTHON' folder. The terminal displays the output of a Python script, showing two test cases. Each test case starts with a 'Welcome to Real-Time River Water Quality Monitoring and Control System' message, followed by a temperature value and a list of water quality parameters.

```
python.py - python - Visual Studio Code

EXPLORER
> PYTHON
  python.py
> OUTLINE
> TIMELINE

Copper: 369
Ammonia & Nitrate: 75
Hardness: 894
Zinc: 20
Conductivity: 1142.33
Chloride: 11
Sulphate: 921

Test case: 4
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: 44
pH: 6
DO: 31
TSS: 1925
Manganese: 923
Copper: 1015
Ammonia & Nitrate: 10
Hardness: 984
Zinc: 76
Conductivity: 114.95
Chloride: 28
Sulphate: 977

Test case: 5
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: 23
pH: 7
DO: 31
TSS: 2959
Manganese: 188
Copper: 1429
Ammonia & Nitrate: 49
Hardness: 864
Zinc: 10
Conductivity: 318.45
Chloride: 34
Sulphate: 990
```

master* 0 0 0 0 Ln 36, Col 6 Spaces: 4 UTF-8 CRLF Python 3.9.7 64-bit Go Live Prettier