

## SPRINT-3

TEAM ID	PNT2022TMID45388
PROJECT TITLE	REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM
DATE	17 NOVEMBER 2022

### 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

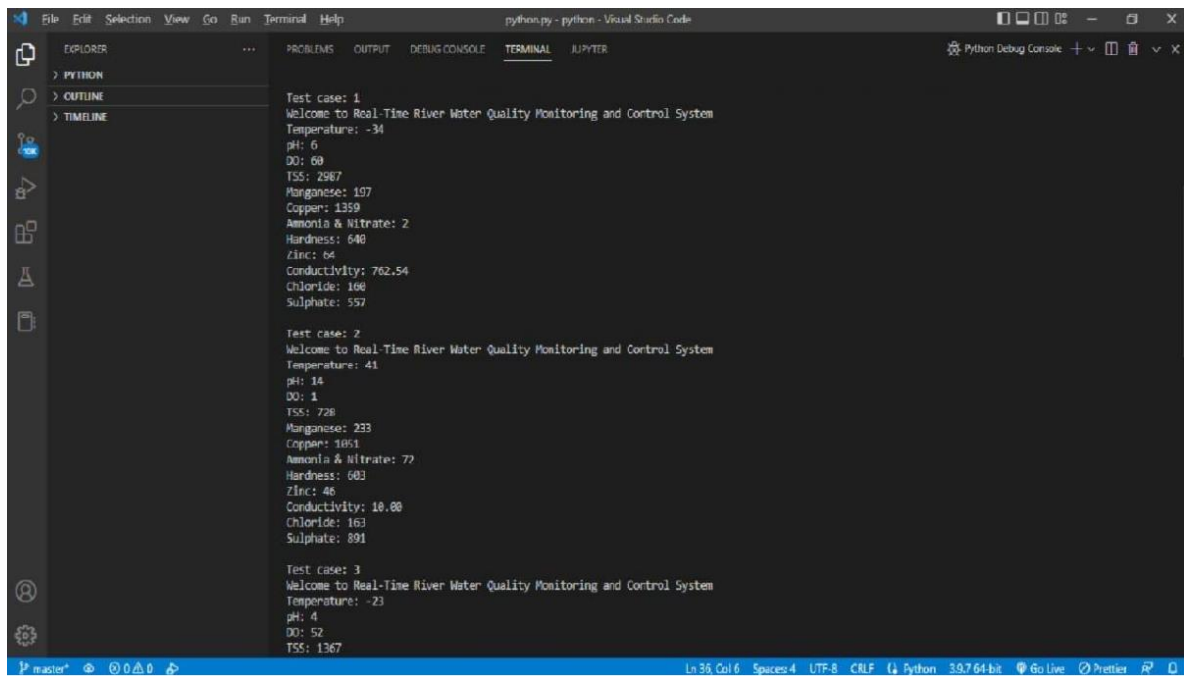
    #printing the values
    print(
        "Temperature:", temperature,
        "\npH:", pH,
```

```

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

```

## PYTHON OUTPUT:



The screenshot shows the Visual Studio Code interface with the Python file 'python.py' open. The terminal window displays the output of the program, which consists of three test cases. Each test case starts with a 'Welcome to Real-Time River Water Quality Monitoring and Control System' message, followed by a list of water quality parameters and their values.

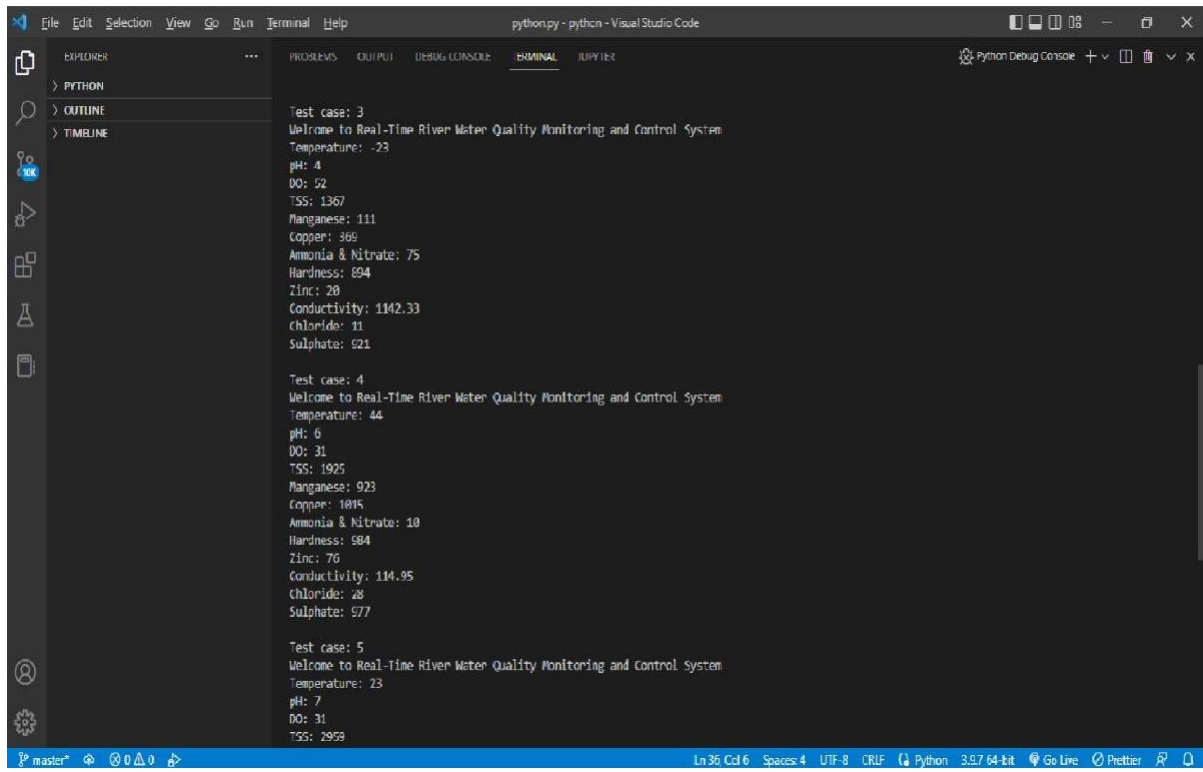
```

Test case: 1
Welcome to Real-Time River Water Quality Monitoring and Control System
Temperature: -34
pH: 6
DO: 69
TSS: 2967
Manganese: 197
Copper: 1359
Ammonia & Nitrate: 2
Hardness: 648
Zinc: 64
Conductivity: 762.54
Chloride: 166
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: 223
Copper: 1051
Ammonia & Nitrate: 72
Hardness: 603
Zinc: 46
Conductivity: 18.88
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

```



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

EXPLORER
> PYTHON
> OUTLINE
> TIMELINE

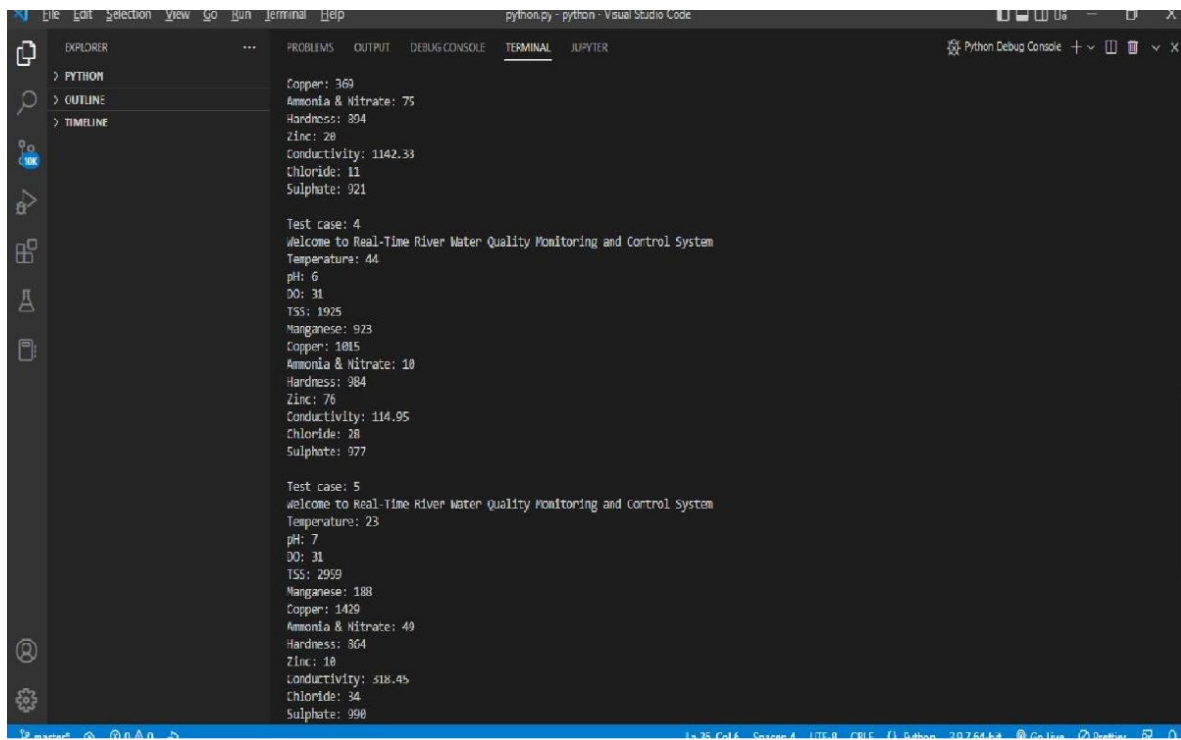
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
Python Debug Console + - [ ] [x] [v] [x]

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: 28
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: 1815
Ammonia & Nitrate: 10
Hardness: 884
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
```

Ln 36 Col 6 Spaces 4 UTF-8 CRUF Python 3.9.7 64-bit Go Live Prettier



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

EXPLORER
> PYTHON
> OUTLINE
> TIMELINE

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
Python Debug Console + - [ ] [x] [v] [x]

Copper: 369
Ammonia & Nitrate: 75
Hardness: 894
Zinc: 28
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: 1815
Ammonia & Nitrate: 10
Hardness: 884
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: 18
Conductivity: 518.45
Chloride: 34
Sulphate: 998
```

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