

## SPRINT-3

TEAM ID	PNT2022TMID12734
PROJECT NAME	Real-time River Water Quality Monitoring and Control System

### PYTHON CODE:

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

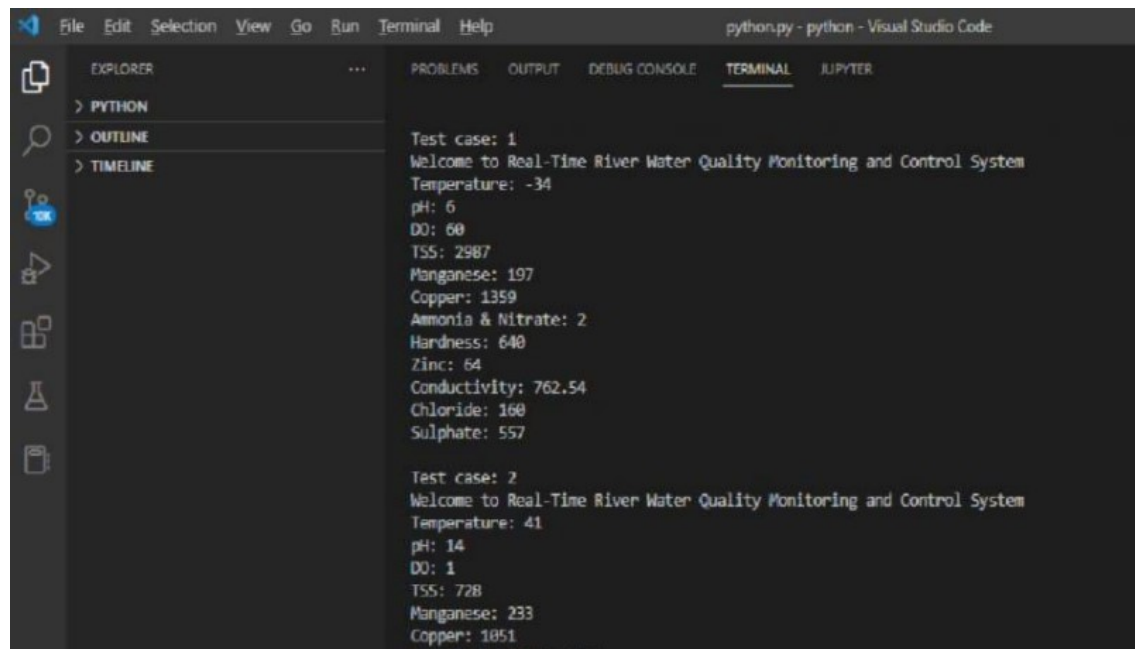
for i in range(5):
    print("Test case:",i+1)
    print("Welcome to Real-Time River Water Quality Mo
System")
    temperature = int(rand.randint(-40,125))
    pH = int(rand.randint(0,14))
    DO = int(rand.randint(0,100))
    TSS = int(rand.randint(0,3700))
    Manganese = int(rand.randint(0,1000))
    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 = int(rand.randint(0,1000))
```

```

"\nDO:", DO,
"\nTSS:", TSS,
"\nManganese:", Manganese,
"\nCopper:", Copper,
"\nAmmonia & Nitrate:", ammonia_Nitrate,
"\nHardness:", Hardness,
"\nZinc:", Zinc,
"\nConductivity:", Conductivity,

```

### PYTHON OUTPUT:



The screenshot shows the Visual Studio Code interface with the terminal window open. The terminal displays the output of a Python script for two test cases. The left sidebar shows the Explorer, Outline, and Timeline views. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The terminal output is as follows:

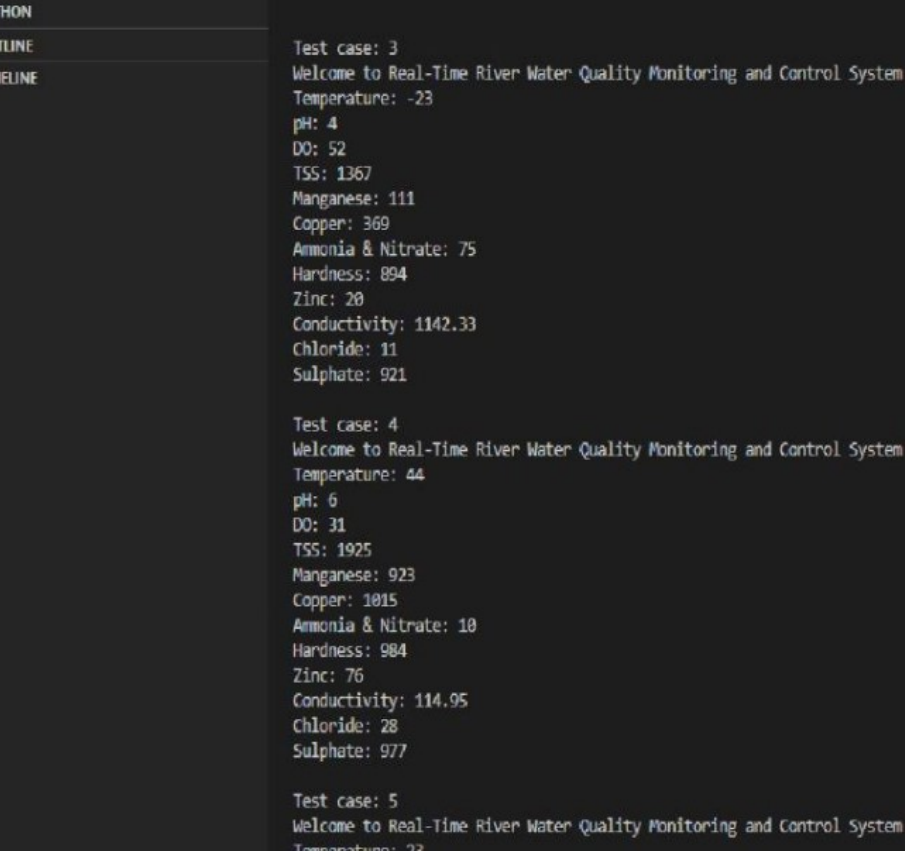
```

python.py - python - Visual Studio Code

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

```



The screenshot displays the Visual Studio Code interface with the following components:

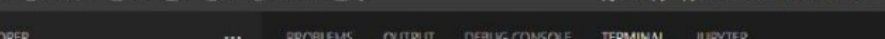
- Explorer View:** Shows a file tree with folders for `PYTHON`, `OUTLINE`, and `TIMELINE`.
- Outline View:** Displays a list of variables and their values, including `Temperature`, `pH`, `DO`, `TSS`, `Manganese`, `Copper`, `Ammonia & Nitrate`, `Hardness`, `Zinc`, `Conductivity`, `Chloride`, and `Sulphate`.
- Terminal View:** Shows the output of a Python script, which is a real-time water quality monitoring and control system. The output displays three test cases, each with a welcome message and a list of water quality parameters.

The output of the Python script is as follows:

```
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
```



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left displays a file tree with the following structure:

- > PYTHON
- > OUTLINE
- > TIMELINE

The Terminal panel on the right shows the output of a program, listing various elements and their values:

```
Copper: 369
Ammonia & Nitrate: 75
Hardness: 894
Zinc: 28
Conductivity: 1142.33
Chloride: 11
Sulfate: 921
```