FINAL DELIVERABLES

Date	09-11-2022
Team ID	PNT2022TMID41415
Project Name	Real-Time River Water Quality Monitoring and Control System
Marks	

ABOUT OUR PROJECT

As our Project Titled Real-Time River Water Quality Monitoring and Control System, we have created the respective Code with requirements Temperature, Humidity and pH value. The code runs successfully and the output displays in the IBM Watson IoT Platform.

FINAL 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 ramdom 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")
```
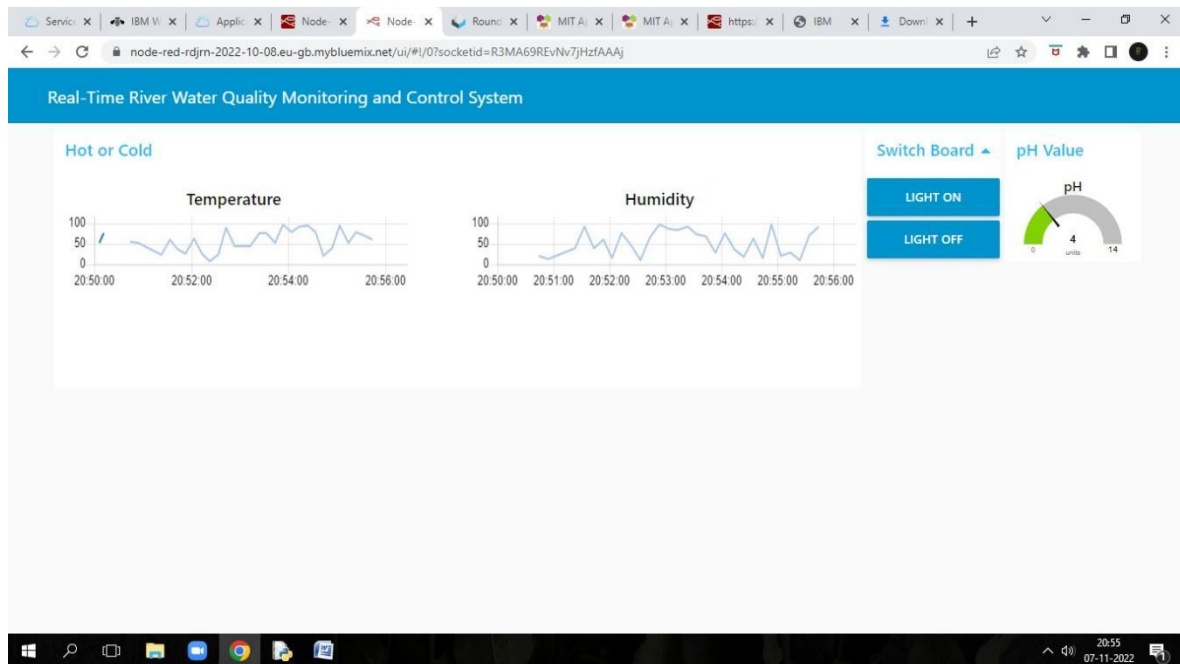
CODE OUTPUT

```
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
```
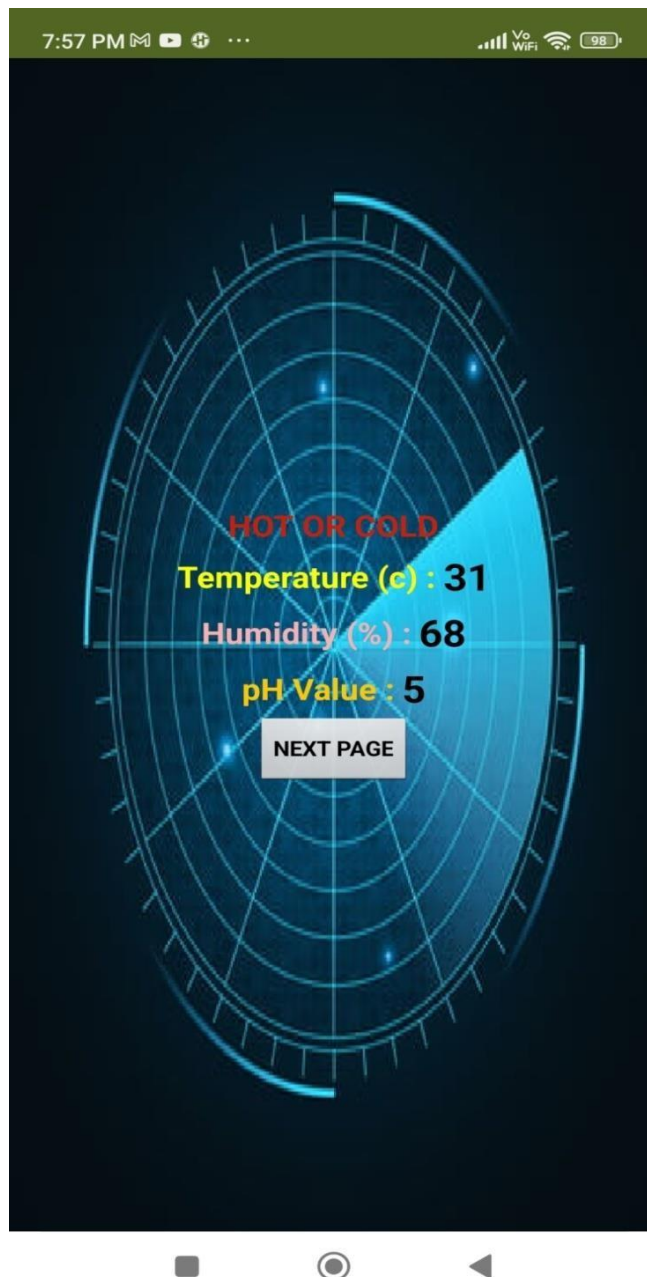
Fig. OUTPUT DISPLAYS IN NODE-RED PLATFORM

APPLICATION OUTPUT

CONCLUSION

In this document we have provided all the outputs which we got executed using the Python code.