PROJECT DEVELOPMENT PHASE

SPRINT 1

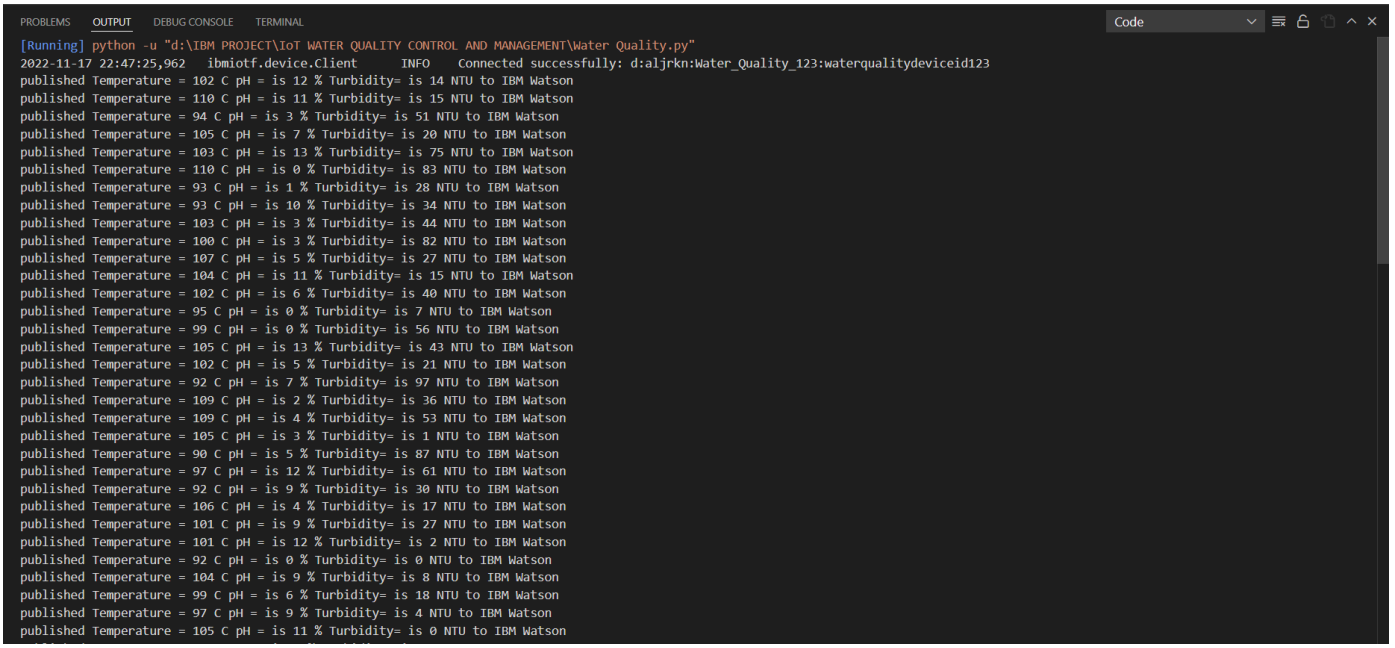
Date	13 November 2022
Team ID	PNT2022TMID37794
Project name	Real –time river water quality monitoring and control system
Maximum marks	2 marks

Python code:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#provide Your IBM Watson Device Credentials
organization = "aljrkn"
deviceType = "Water_Quality_123"
deviceID = "waterqualitydeviceid123"
authMethod = "token"
authToken = "aiOonF6MCZ@Tke54DZ"


#Initialize GPIO
def myCommandCallback(cmd):
    print ("command received: %s" %cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print  ("led is on")
    elif status == "lightoff":
       print ("led is off")
    else:
      print ("please send proper command")
try:
      deviceOptions = {'org':organization,'type':deviceType,'id':deviceID,'auth-
method':authMethod, 'auth-token': authToken}
      deviceCli = ibmiotf.device.Client(deviceOptions)
      #.....................................................

except Exception as e:
       print("caught exception connecting device:%s" % str(e))
       sys.exit()

# connect and send a datapoint "hello"with value "world" info the cloud as an event of
type"greetings"10 times
deviceCli.connect()

while True:
        #Get sensor Data from DHT11
```

```
        temp=random.randint(90,110)
        pH=random.randint(0,14)
        turbidity=random.randint(0,100)

        data = { 'Temperature' : temp, 'pH': pH, 'Turbidity':turbidity }
        #print data
        def myOnPublishCallback():
            print ("published Temperature = %s C" %  temp, "pH = is %s %%" % pH,
"Turbidity= is %s NTU" % turbidity,"to IBM Watson")


        success = deviceCli.publishEvent("IOTSensor",
"json",data,qos=0,on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IOTF")
        time.sleep(10)


        deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

OUTPUT:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Code
[Running] python -u "d:\IBM PROJECT\IoT WATER QUALITY CONTROL AND MANAGEMENT\Water Quality.py"
2022-11-17 22:47:25,962 ibmiotf.device.Client INFO Connected successfully: d:aljrkn:Water_Quality_123:waterqualitydeviceid123
published Temperature = 102 C pH = is 12 % Turbidity= is 14 NTU to IBM Watson
published Temperature = 110 C pH = is 11 % Turbidity= is 15 NTU to IBM Watson
published Temperature = 94 C pH = is 3 % Turbidity= is 51 NTU to IBM Watson
published Temperature = 105 C pH = is 7 % Turbidity= is 20 NTU to IBM Watson
published Temperature = 103 C pH = is 13 % Turbidity= is 75 NTU to IBM Watson
published Temperature = 110 C pH = is 0 % Turbidity= is 83 NTU to IBM Watson
published Temperature = 93 C pH = is 1 % Turbidity= is 28 NTU to IBM Watson
published Temperature = 93 C pH = is 10 % Turbidity= is 34 NTU to IBM Watson
published Temperature = 103 C pH = is 3 % Turbidity= is 44 NTU to IBM Watson
published Temperature = 100 C pH = is 3 % Turbidity= is 82 NTU to IBM Watson
published Temperature = 107 C pH = is 5 % Turbidity= is 27 NTU to IBM Watson
published Temperature = 104 C pH = is 11 % Turbidity= is 15 NTU to IBM Watson
published Temperature = 102 C pH = is 6 % Turbidity= is 40 NTU to IBM Watson
published Temperature = 95 C pH = is 0 % Turbidity= is 7 NTU to IBM Watson
published Temperature = 99 C pH = is 0 % Turbidity= is 56 NTU to IBM Watson
published Temperature = 105 C pH = is 13 % Turbidity= is 43 NTU to IBM Watson
published Temperature = 102 C pH = is 5 % Turbidity= is 21 NTU to IBM Watson
published Temperature = 92 C pH = is 7 % Turbidity= is 97 NTU to IBM Watson
published Temperature = 109 C pH = is 2 % Turbidity= is 36 NTU to IBM Watson
published Temperature = 109 C pH = is 4 % Turbidity= is 53 NTU to IBM Watson
published Temperature = 105 C pH = is 3 % Turbidity= is 1 NTU to IBM Watson
published Temperature = 90 C pH = is 5 % Turbidity= is 87 NTU to IBM Watson
published Temperature = 97 C pH = is 12 % Turbidity= is 61 NTU to IBM Watson
published Temperature = 92 C pH = is 9 % Turbidity= is 30 NTU to IBM Watson
published Temperature = 106 C pH = is 4 % Turbidity= is 17 NTU to IBM Watson
published Temperature = 101 C pH = is 9 % Turbidity= is 27 NTU to IBM Watson
published Temperature = 101 C pH = is 12 % Turbidity= is 2 NTU to IBM Watson
published Temperature = 92 C pH = is 0 % Turbidity= is 0 NTU to IBM Watson
published Temperature = 104 C pH = is 9 % Turbidity= is 8 NTU to IBM Watson
published Temperature = 99 C pH = is 6 % Turbidity= is 18 NTU to IBM Watson
published Temperature = 97 C pH = is 9 % Turbidity= is 4 NTU to IBM Watson
published Temperature = 105 C pH = is 11 % Turbidity= is 0 NTU to IBM Watson