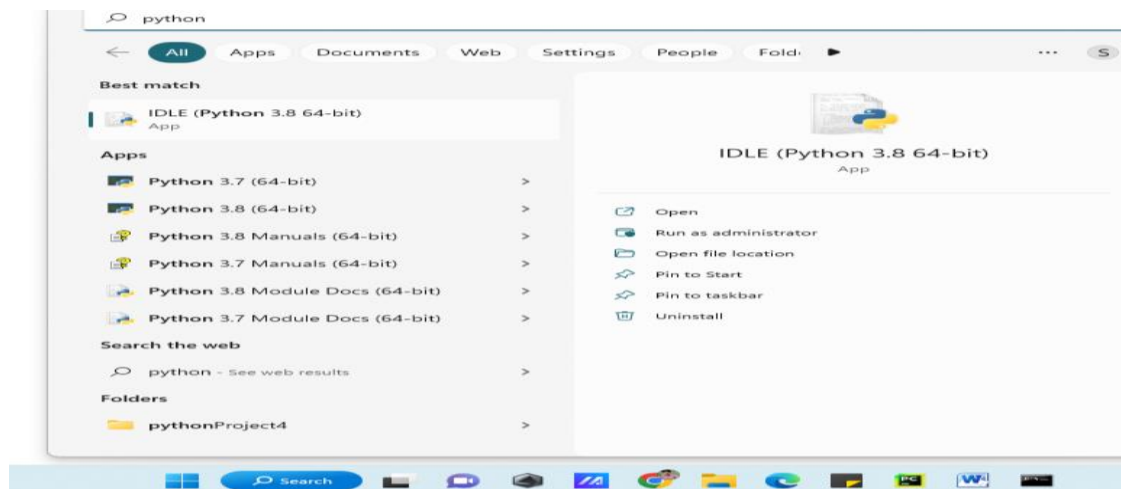


Real-Time River Water Quality Monitoring and Control Systems

- **Install the Python IDE**
- **python libraries:**
- **Install Watson IoT Python SDK to connect to IBM Watson IoT Platform using python code:**
- **give the following command in command prompt: pip install wiotp-sdk**
- **Create a fast SMS service for sending the messages and getting the API**

Date	29/10/2022
Team ID	PNT2022TMID52874
Project Name	Real-Time Water Quality Monitoring And Control System

Python INSTALL & LOGIN:



PYTHON OUTPUT:

The screenshot shows a Python IDE with a file explorer on the left and a code editor in the center. The file explorer shows a project named 'pythonProject1' with files 'main.py', 'scratch_1.py', 'scratch_2.py', and 'scratch_3.py'. The code editor displays the following Python code:

```

1 import random
2 import time
3 import sys
4 import ibmiotf.application
5 import ibmiotf.device
6
7 # Provide your IBM Watson Device Credentials
8 organization = "f9rl2v" # replace it with organization ID
9 deviceType = "weather_device" # replace it with device type
10 deviceId = "weather_today" # replace with device id
11 authMethod = "token"
12 authToken = "2Vcvps)HG4rnx1G)x" # replace with token
13
14 def myCommandCallback(cmd):
15     print("Command received: %s" % cmd.data)
16     if cmd.data['command'] == 'lighton':
17         print("LIGHT ON")
18     elif cmd.data['command'] == 'lightoff':
19         print("LIGHT OFF")
20
21 try:
22     deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "auth-token": authToken}
23     deviceCli = ibmiotf.device.Client(deviceOptions)
24     # .....
25
26 except Exception as e:
27     print("Caught exception connecting device: %s" % str(e))
28     sys.exit()
29
30 deviceCli.connect()
31
32 while True:
33     pH = random.randint(0,100)
34     conductivity = random.randint(0,100)
35     T = random.randint(0,100)
36     oxygen = random.randint(0,100)
37     turbidity = random.randint(0,100)
38     #send Temperature & humidity to IBM Watson
39     data = {"turbidity":turbidity,"temp":T,"pH":pH,"Salinity":conductivity,"oxygen":oxygen}
40
41     print(data)

```

The bottom status bar shows the IDE is running Python 3.8.1 (Python 3.8) on a Windows 10 machine, with 34.35 GB of free space and 17-11-2022 as the date.