

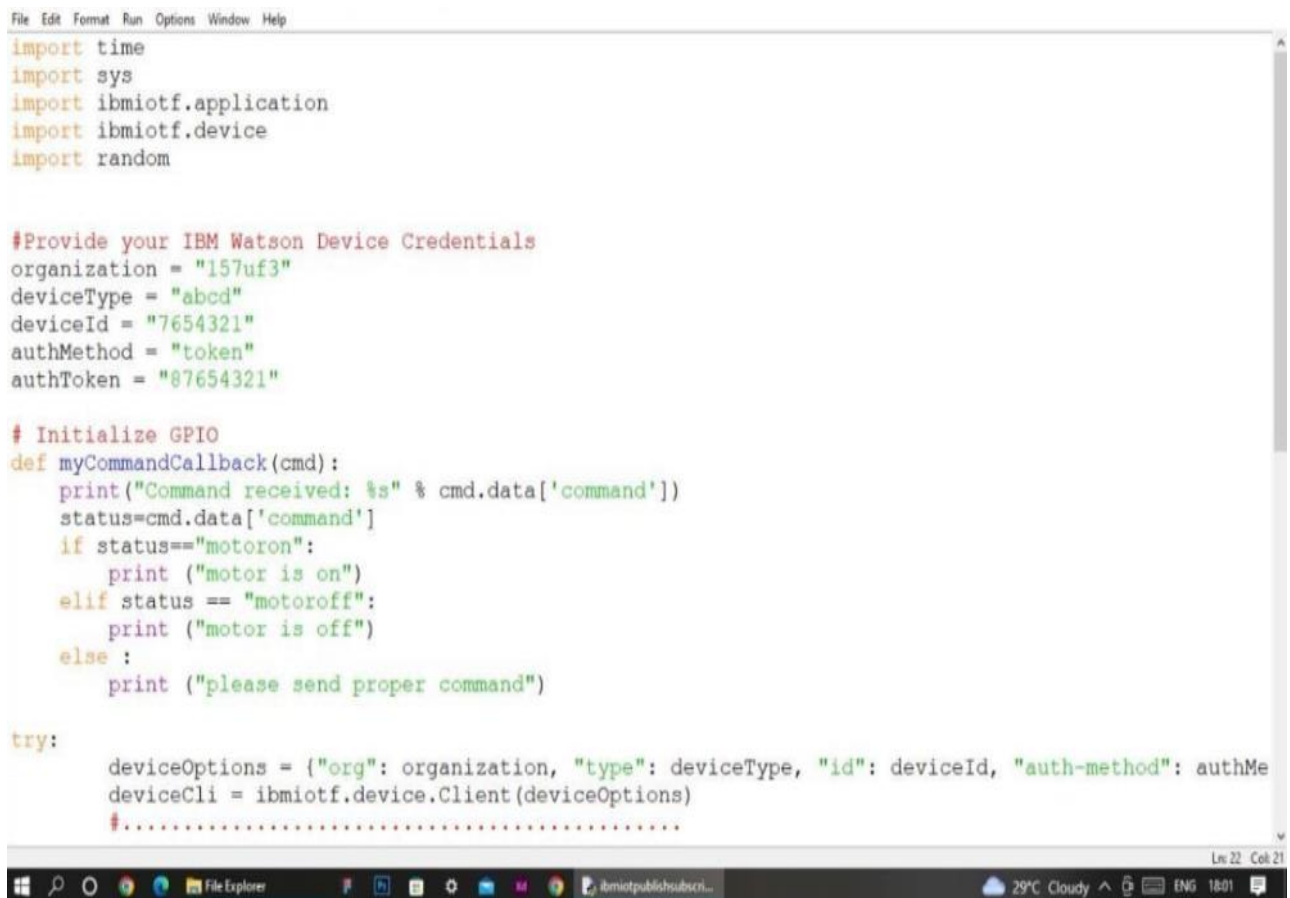
Project Development Phase

Sprint 4

Date	13.11.2022
Team ID	PNT2022TMID17614
Project Title	Project - Smart Farmer - IoT Enabled Smart Farming Application
Marks	8 Marks

Testing the Application:

Testing the application is finding out how well something works. It helps teams release bug-free and robust software applications into the real world.



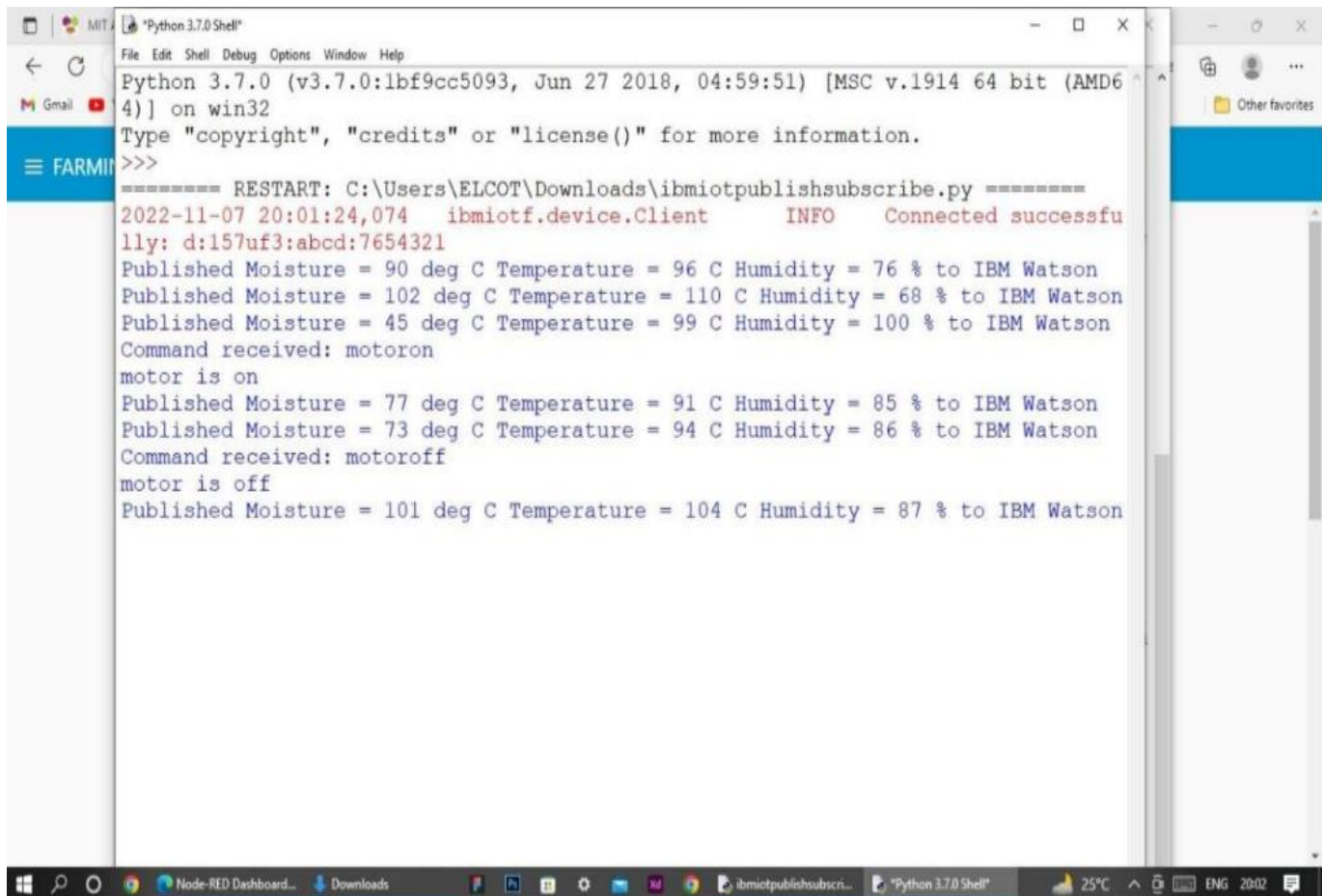
```
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "157uf3"
deviceType = "abcd"
deviceId = "7654321"
authMethod = "token"
authToken = "87654321"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor is off")
    else :
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMe
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....

```



```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\ELCOT\Downloads\ibmiotpublishsubscribe.py =====
2022-11-07 20:01:24,074  ibmiotf.device.Client      INFO      Connected successfully: d:157uf3:abcd:7654321
Published Moisture = 90 deg C Temperature = 96 C Humidity = 76 % to IBM Watson
Published Moisture = 102 deg C Temperature = 110 C Humidity = 68 % to IBM Watson
Published Moisture = 45 deg C Temperature = 99 C Humidity = 100 % to IBM Watson
Command received: motoron
motor is on
Published Moisture = 77 deg C Temperature = 91 C Humidity = 85 % to IBM Watson
Published Moisture = 73 deg C Temperature = 94 C Humidity = 86 % to IBM Watson
Command received: motoroff
motor is off
Published Moisture = 101 deg C Temperature = 104 C Humidity = 87 % to IBM Watson
```

Application Code:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "7v0txq",
        "typeId": "NodeMCU",
        "deviceId": "12345"
```

```
},  
  "auth": {  
    "token": "12345678"  
  }  
}
```

```
def myCommandCallback(cmd):  
    print("Message received from IBM IoT Platform: %s" %  
          cmd.data['command'])  
    m=cmd.data['command']  
    client = wiotp.sdk.device.DeviceClient(config=myConfig,  
      logHandlers=None)  
    client.connect()
```

```
while True:
```

```
    soil=random.randint(0,100)  
    temp=random.randint(-20,125)  
    hum=random.randint(0,100)  
    myData={'soil_moisture': soil, 'temperature':temp, 'humidity':hum}  
    print("Published data Successfully: %s", myData)  
    client.commandCallback = myCommandCallback  
    time.sleep(2)  
    client.disconnect()
```

Performance analysis:

