Sprint 4

Web UI-

to make user interact with Software

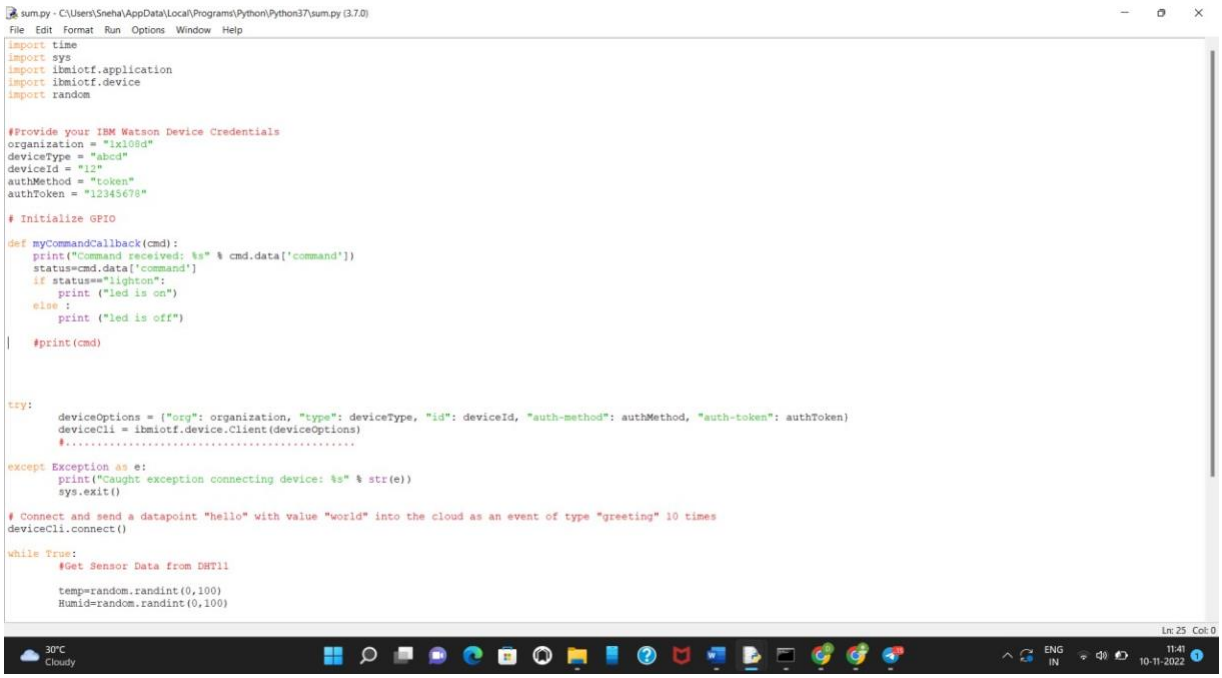
Date	9 October 2022
Team ID	PNT2022TMID23451
Project Name	Project – Smart Farmer-IoT Enabled smart Farming Application
Maximum Marks	4 Marks

Receiving commands from IBM cloud using Python program

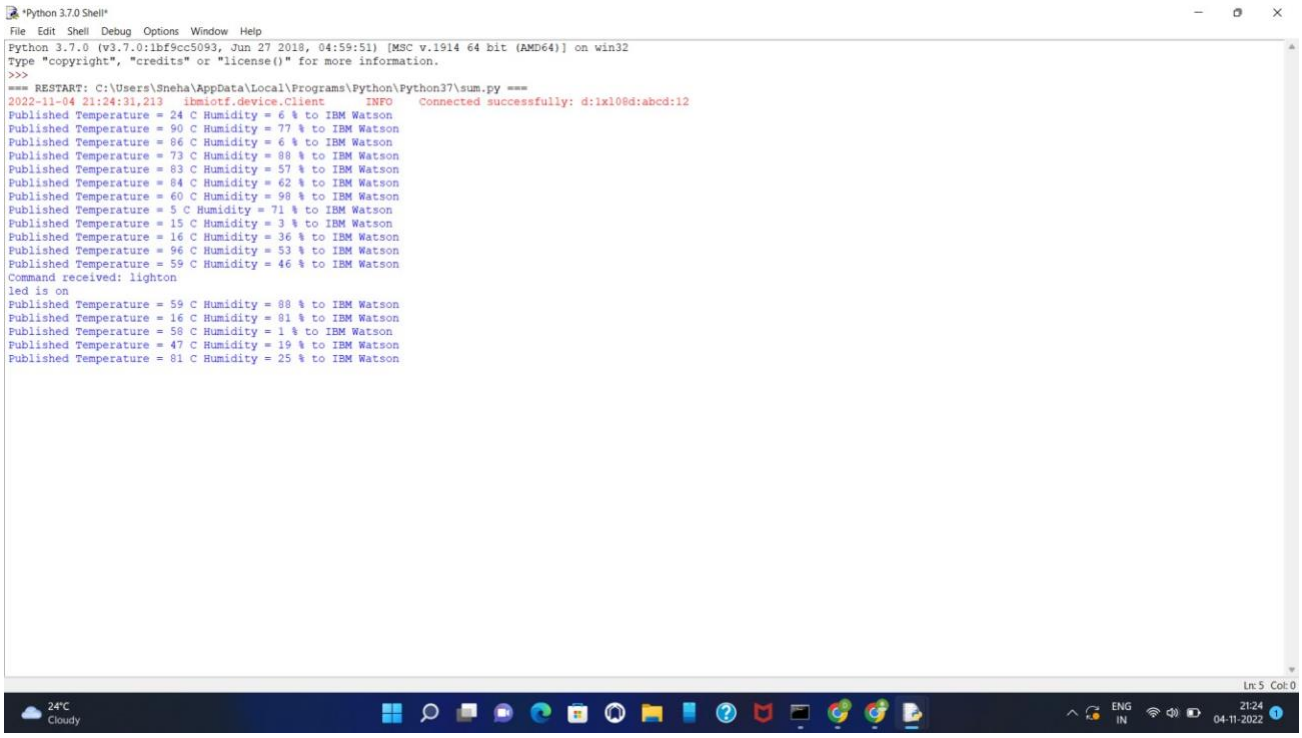
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "1xl08d"
deviceType = "abcd"
deviceId = "12"
authMethod = "token"
authToken = "12345678"

# 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”)

  #print(cmd)

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" into the cloud as an event of type "greeting" 10 times deviceCli.connect()
while True:
      #Get Sensor Data from DHT11
      temp=random.randint(90,110)
      Humid=random.randint(60,100)
      Mois=random.randint(20,100)
        data = { 'temp' : temp, 'Humid': Humid ,’Mois’:Mois}
      #print data
      def myOnPublishCallback():
         print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, ", Moisture = %s deg c" % Mois, to IBM Watson")
          success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
```

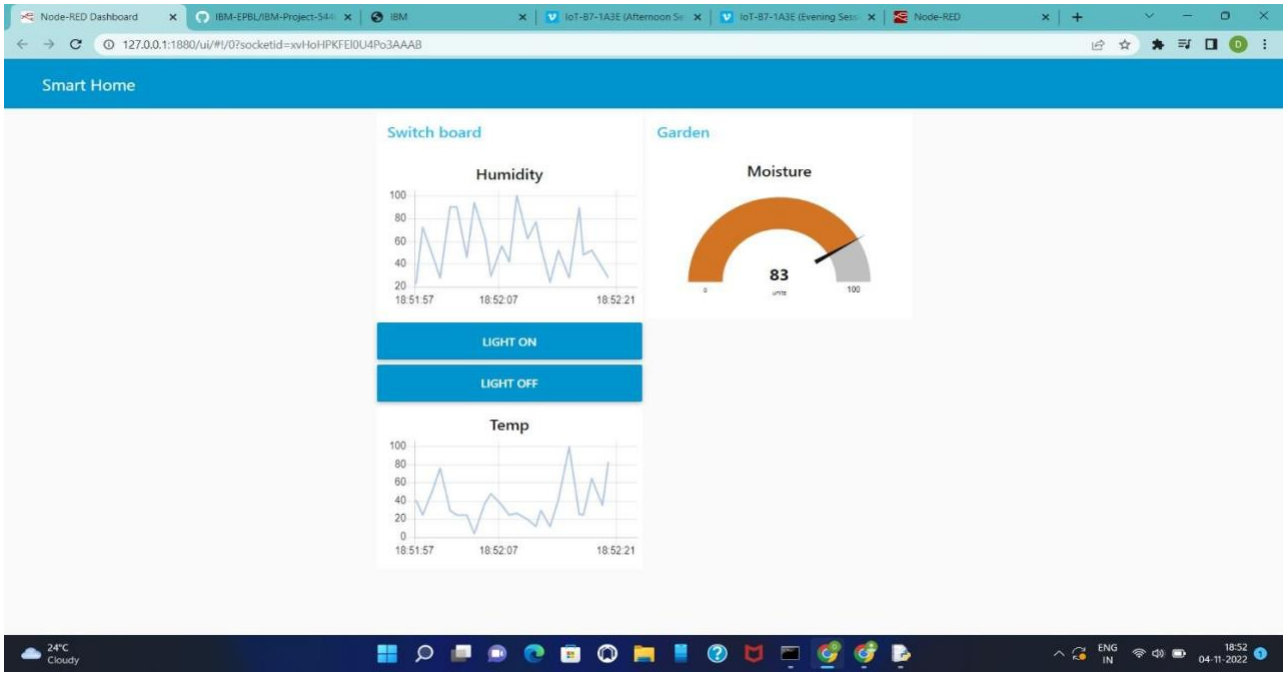
```
    if not success:
        print("Not connected to IoTF")
time.sleep(1)
    deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```



Output


Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
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\Sneha\AppData\Local\Programs\Python\Python37\sum.py ===
2022-11-04 21:24:31,213 ibmiotf.device.Client INFO Connected successfully: d:1x10@d:abcd:12
Published Temperature = 24 C Humidity = 6 % to IBM Watson
Published Temperature = 90 C Humidity = 77 % to IBM Watson
Published Temperature = 86 C Humidity = 6 % to IBM Watson
Published Temperature = 73 C Humidity = 88 % to IBM Watson
Published Temperature = 83 C Humidity = 57 % to IBM Watson
Published Temperature = 84 C Humidity = 62 % to IBM Watson
Published Temperature = 60 C Humidity = 98 % to IBM Watson
Published Temperature = 5 C Humidity = 71 % to IBM Watson
Published Temperature = 15 C Humidity = 3 % to IBM Watson
Published Temperature = 16 C Humidity = 36 % to IBM Watson
Published Temperature = 96 C Humidity = 53 % to IBM Watson
Published Temperature = 59 C Humidity = 46 % to IBM Watson
Command received: lighton
led is on
Published Temperature = 59 C Humidity = 88 % to IBM Watson
Published Temperature = 16 C Humidity = 81 % to IBM Watson
Published Temperature = 58 C Humidity = 1 % to IBM Watson
Published Temperature = 47 C Humidity = 19 % to IBM Watson
Published Temperature = 81 C Humidity = 25 % to IBM Watson
Ln: 5 Col: 0
24°C
Cloudy
ENG
IN
21:24
04-11-2022

Web APP UI


Node-RED Dashboard
127.0.0.1:1880/ui/#!/0?socketid=xvHoHPKFEl0U4Po3AAAB
Smart Home
Switch board
Humidity
100
80
60
40
20
18:51:57
18:52:07
18:52:21
LIGHT ON
LIGHT OFF
Temp
100
80
60
40
20
0
18:51:57
18:52:07
18:52:21
Garden
Moisture
83
100
24°C
Cloudy
ENG
IN
18:52
04-11-2022

Mobile APP UI: