

IBM IoT-Enabled Smart Farming Application

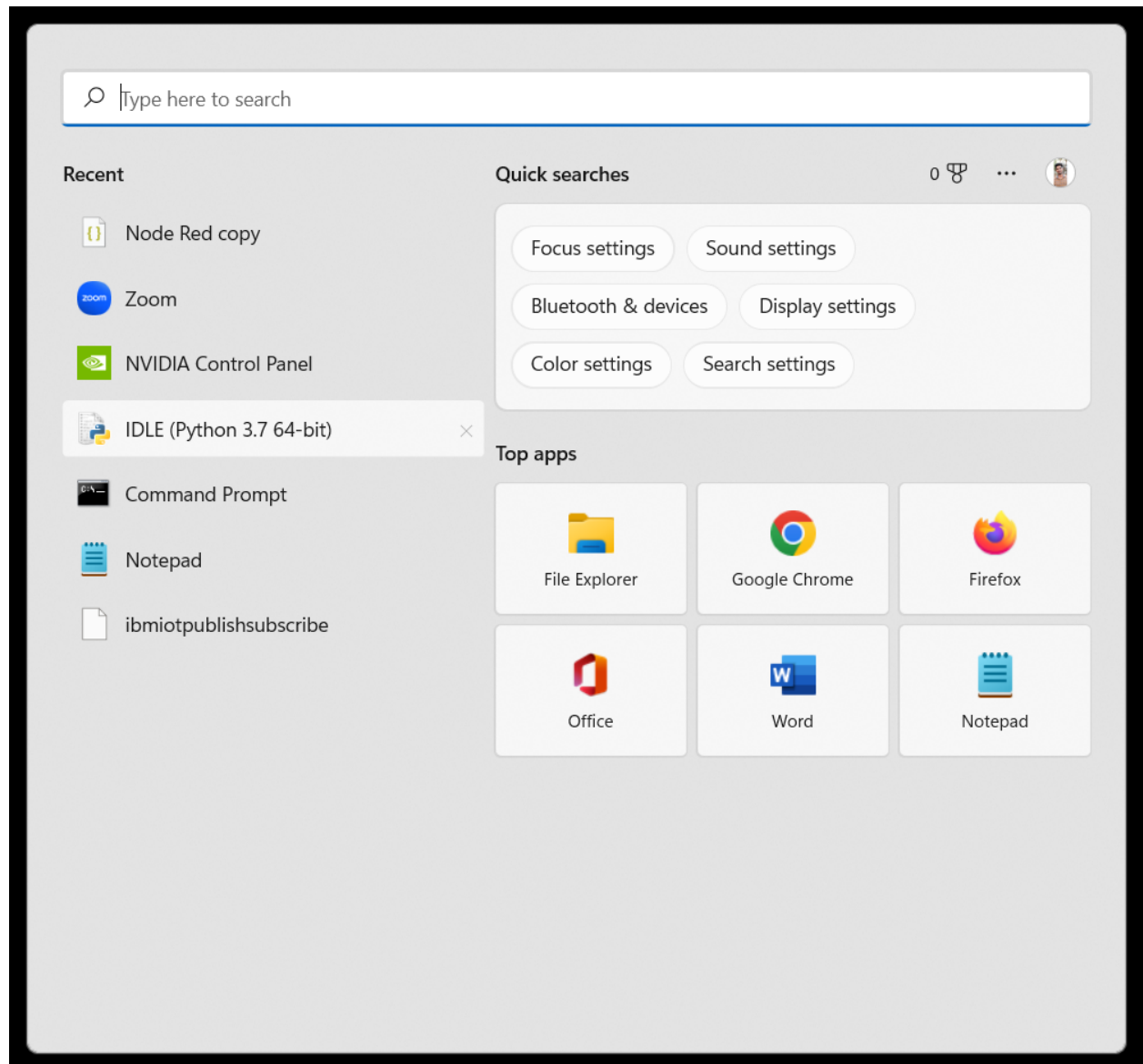
Develop a python script to publish and subscribe to IBM IoT platform

DOMAIN	INTERNET OF THINGS
TOPIC	IoT-ENABLED SMART FARMING APPLICATION
TEAM ID	PNT2022TMID16477
TEAM MEMBERS	KANAGARAJ.P(TL) AKASH.R(™) MANOJKUMAR.R(™) MOUNIESH M.K(™)

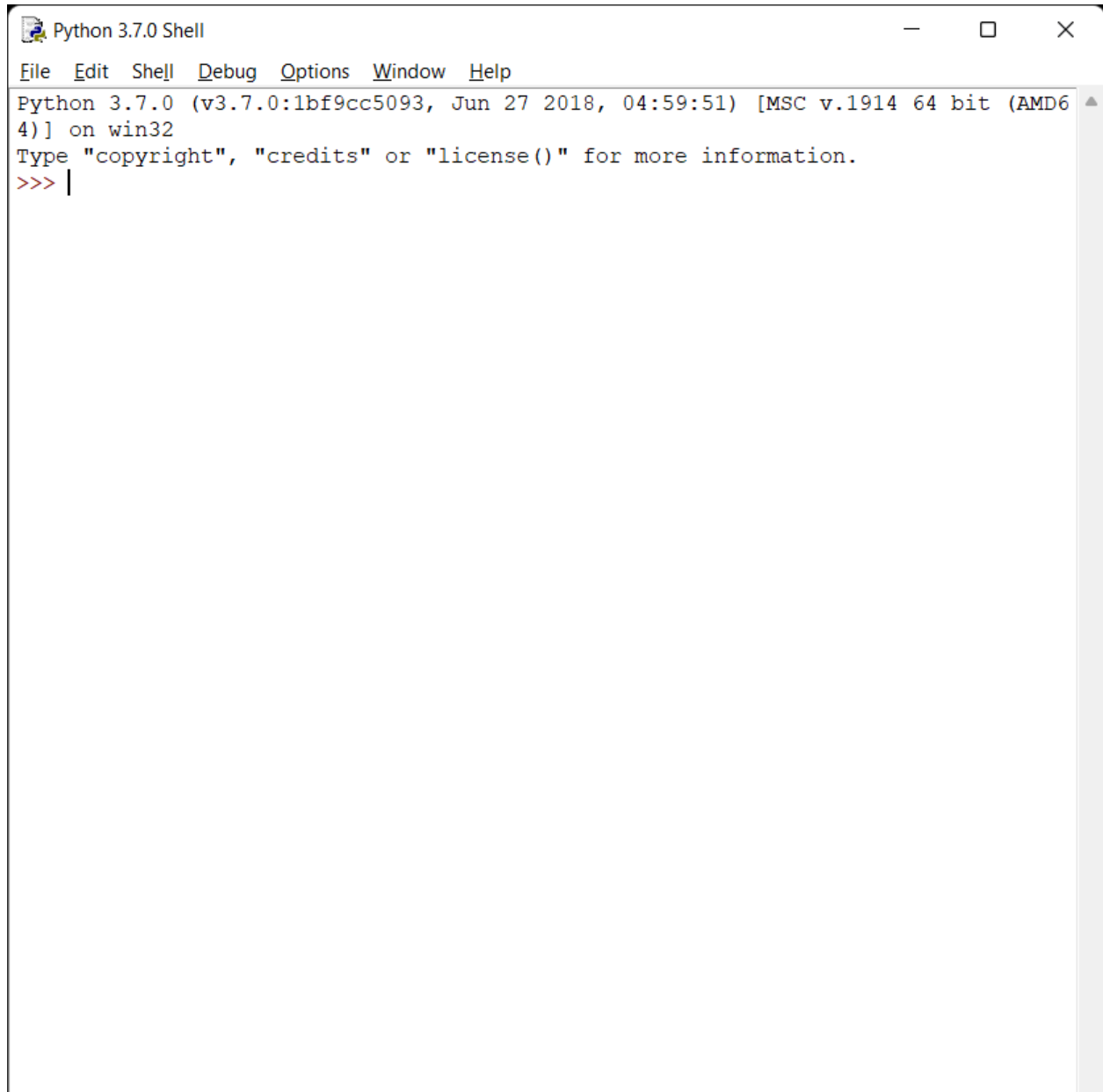
Develop the python code:

Open the IDLE and develop the python code for your Project

Open the IDLE:



Open a new File and Create the Python Code:

A screenshot of a Python 3.7.0 Shell window. The window has a title bar with the text "Python 3.7.0 Shell" and standard Windows window controls (minimize, maximize, close). Below the title bar is a menu bar with the following items: File, Edit, Shell, Debug, Options, Window, and Help. The main area of the window contains the following text:

```
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.
>>> |
```

In the Run click the Run module:

```

C:\Users\kanag\AppData\Local\Programs\Python\Python37\Maincode\forprojectpy (3.7.0)
File Edit Format Run Options Window Help

import time                    #PNT2022TMD16477
import sys
import ibmiotf.application     #Team Member-kanagaraaj(TL)
import ibmiotf.device          #Team Member-Akash.R(TM)
import random                  #Team Member-Manojkumar.R(TM)
                                #Team Member-Mouniesh M.K

#Provide your IBM Watson Device Credentials
organization = "myjsar"
deviceType = "abcd"
deviceId = "12345"
authMethod = "token"
authToken = "123456789"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    m=cmd.data['command']
    if (m=="motoron"):
        print ("motor is switched on")
    elif (m=="motoroff"):
        print ("motor is switched 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)
    #.....

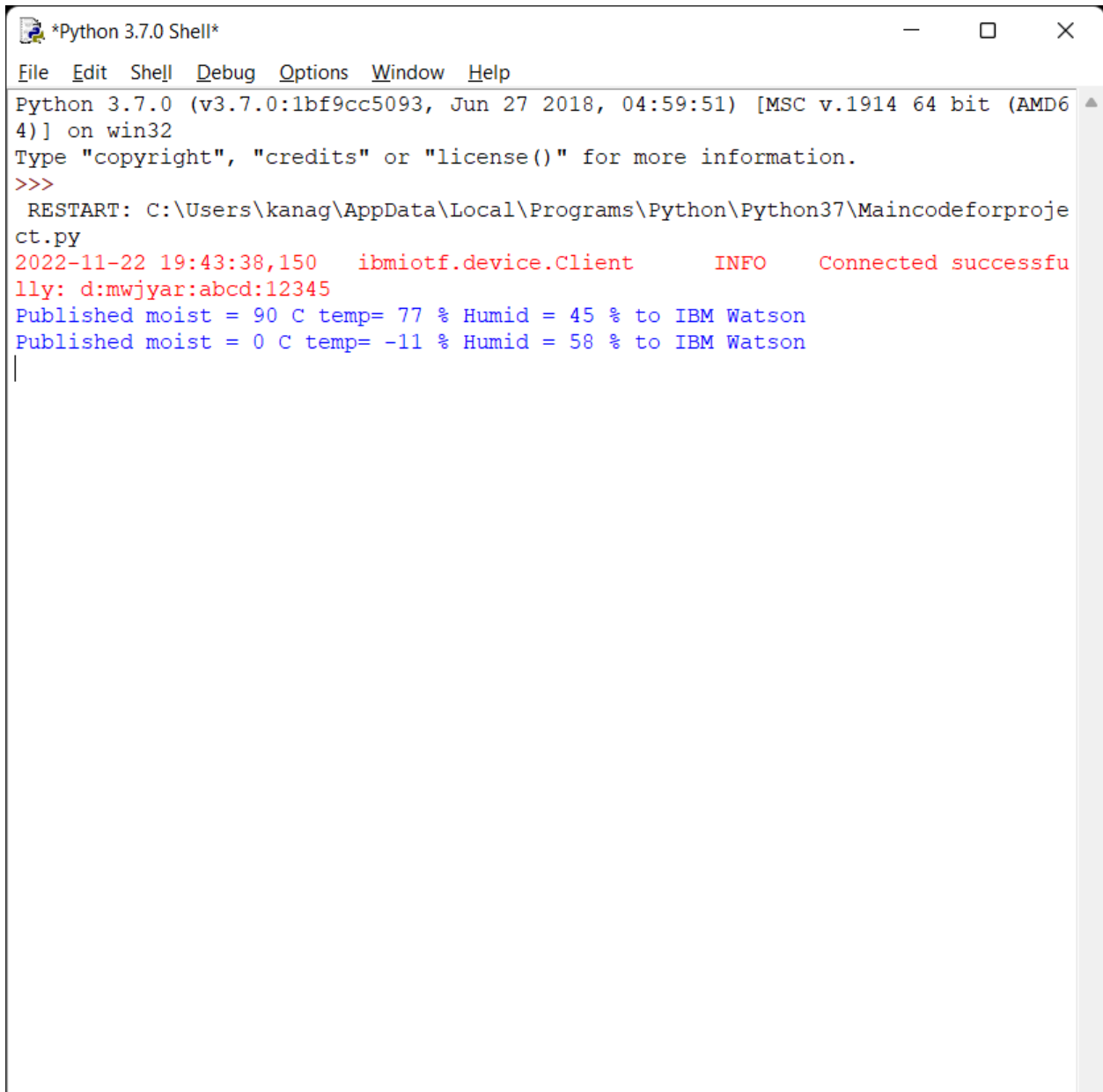
except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

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

while True:
    #Get Sensor Data from DHT11
    moisture=random.randint(0,100)
    temp=random.randint(-20,125)
    Humid=random.randint(0,100)
    data = { 'moist': moist , 'temp' : temp , 'Humid': Humid}
    #print data
    def myonPublishCallback():
        #Publishes point = { "temp": temp, "moist": temp, "Humid": temp }
        #Team Member-kanagaraaj(TL)
        #Team Member-Akash.R(TM)
        #Team Member-Manojkumar.R(TM)
        #Team Member-Mouniesh M.K

```

Our Python code is running Successfully for generating Random values:



```
*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\kanag\AppData\Local\Programs\Python\Python37\Maincodeforproject.py
2022-11-22 19:43:38,150 ibmiotf.device.Client INFO Connected successfully: d:mwjyar:abcd:12345
Published moist = 90 C temp= 77 % Humid = 45 % to IBM Watson
Published moist = 0 C temp= -11 % Humid = 58 % to IBM Watson
|
```