Develop a Python Script

Date	19 November 2022
Team ID	PNT2022TMID07461
Project Name	Smartfarmer - IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

Python script for generating random values - Temperature, humidity and soil Moisture

CODE:

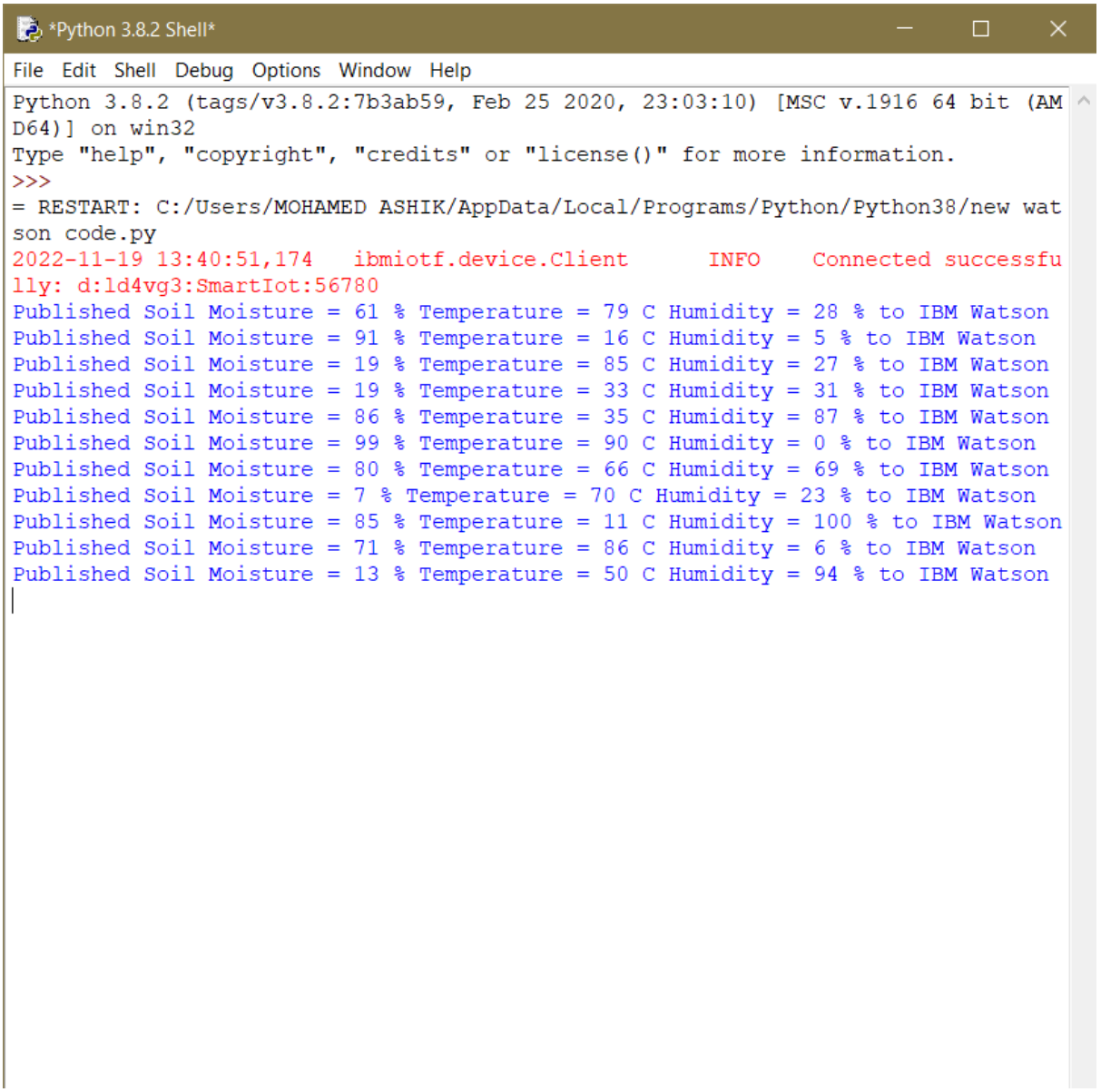
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "ld4vg3"
deviceType = "SmartIot"
deviceId =  "56780"
authMethod = "token"
authToken = "axS)H_x70RGU*bswcB"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    else :
        print ("motor is off")
    #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
      soil=random.randint(0,100)
      temp=random.randint(0,100)
      hum=random.randint(0,100)
      data = { 'soil moisture': soil, 'temperature':temp, 'humidity':hum}
      #print data
      def myOnPublishCallback():
         print ( "Published Soil Moisture = %s %%" % soil,"Temperature = %s C"
% temp, "Humidity = %s %%" % hum, "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 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/MOHAMED ASHIK/AppData/Local/Programs/Python/Python38/new watson code.py
2022-11-19 13:40:51,174 ibmiotf.device.Client INFO Connected successfully: d:ld4vg3:SmartIot:56780
Published Soil Moisture = 61 % Temperature = 79 C Humidity = 28 % to IBM Watson
Published Soil Moisture = 91 % Temperature = 16 C Humidity = 5 % to IBM Watson
Published Soil Moisture = 19 % Temperature = 85 C Humidity = 27 % to IBM Watson
Published Soil Moisture = 19 % Temperature = 33 C Humidity = 31 % to IBM Watson
Published Soil Moisture = 86 % Temperature = 35 C Humidity = 87 % to IBM Watson
Published Soil Moisture = 99 % Temperature = 90 C Humidity = 0 % to IBM Watson
Published Soil Moisture = 80 % Temperature = 66 C Humidity = 69 % to IBM Watson
Published Soil Moisture = 7 % Temperature = 70 C Humidity = 23 % to IBM Watson
Published Soil Moisture = 85 % Temperature = 11 C Humidity = 100 % to IBM Watson
Published Soil Moisture = 71 % Temperature = 86 C Humidity = 6 % to IBM Watson
Published Soil Moisture = 13 % Temperature = 50 C Humidity = 94 % to IBM Watson