Sprint-1

SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES
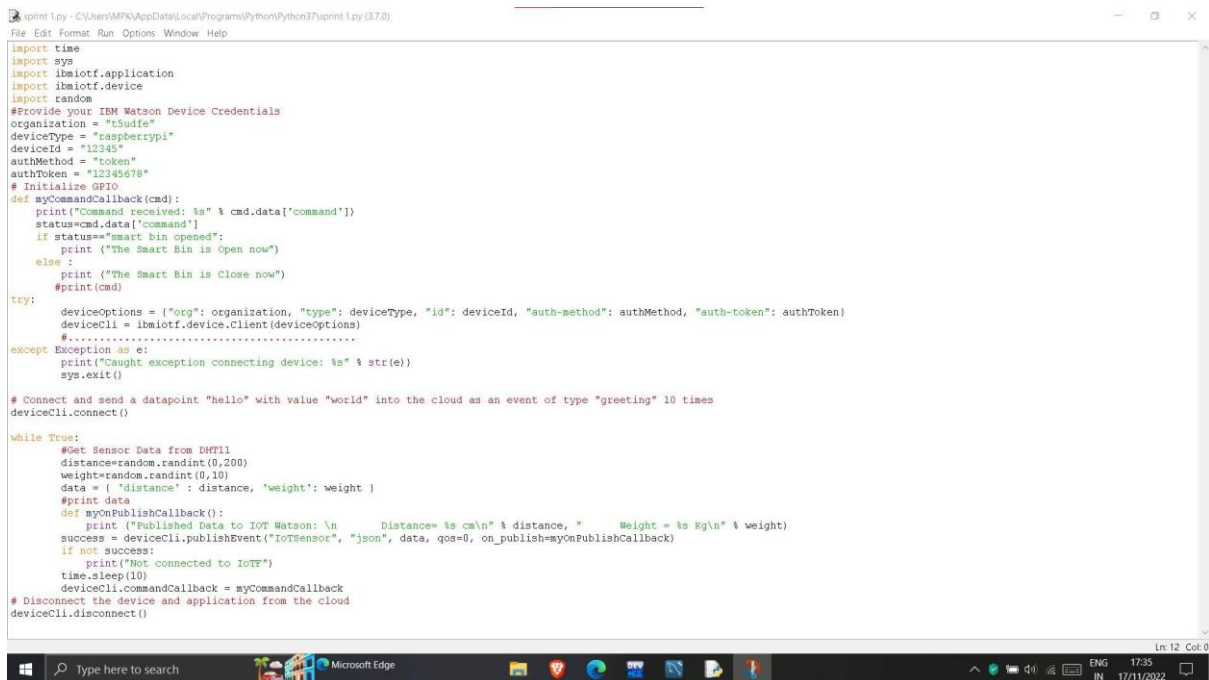
PYTHON CODE:

```python
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "t5udfe"
deviceType = "raspberrypi"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"
# Initialize GPIO
def myCommandCallback(cmd):
print("Command received: %s" % cmd.data['command'])
status=cmd.data['command']
if status=="smart bin opened":
print ("The Smart Bin is Open now")
else :
print ("The Smart Bin is Close now")
#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
distance=random.randint(0,200)
weight=random.randint(0,10)
data = { 'distance' : distance, 'weight': weight }
#print data
def myOnPublishCallback():
print ("Published Data to IOT Watson: \n Distance= %s cm\n" %
distance, " Weight = %s Kg\n" % weight)
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
if not success:
print("Not connected to IoTF")
time.sleep(10)
deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

```
*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\MPK\AppData\Local\Programs\Python\Python37\sprint 1.py ==
2022-11-17 17:41:19,440  ibmiotf.device.Client     INFO    Connected successfully: d:t5udfe:raspberrypi:12345
Published Data to IOT Watson:
       Distance= 48 cm
       Weight = 8 Kg

Published Data to IOT Watson:
       Distance= 168 cm
       Weight = 2 Kg

Published Data to IOT Watson:
       Distance= 198 cm
       Weight = 10 Kg

Published Data to IOT Watson:
       Distance= 113 cm
       Weight = 5 Kg

Published Data to IOT Watson:
       Distance= 143 cm
       Weight = 3 Kg

Published Data to IOT Watson:
       Distance= 165 cm
       Weight = 9 Kg

Published Data to IOT Watson:
       Distance= 159 cm
       Weight = 10 Kg

Published Data to IOT Watson:
       Distance= 135 cm
       Weight = 3 Kg
```

Here we are generating random values for both the parameters weight and distance with the help of the random function in python. The weight parameter denotes the weight of smartbin and the distance parameter denotes the amount of garbage present in the smartbin which has a maximum length of 200 cm.

A new device is created and the random values from the python code is connected to the IoT sensors. These random values are considered to be sensor values