

# Python code for Bin location and Bin Status

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PROJECT NAME: SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

CODE:

```
import requests
import urllib.parse
import folium
address = 'kodambakkam'
address1 = 'virugambakkam'
address2 = 'Royapettah'
address3 = 'Ambattur'
address4 = 'Coimbatore'
str1 = input("Enter the string:")
if(str1 == address):
    url = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote
(address) + '?format=json'
    response = requests.get(url).json()
    a = response[1]["lat"]
    b = response[1]["lon"]
    m = folium.Map(location = [a,b], zoom_start=15)
    folium.Marker(location = [a,b], popup=" kodambakkam", tooltip="click for mo
re info").add_to(m)
    folium.Marker(location = [13.0559, 80.2265], popup=" ", tooltip="click for
more info").add_to(m)
    folium.Marker(location = [13.0418, 80.2341], popup=" ", tooltip="click for mo
re info").add_to(m)
    folium.Marker(location = [13.0532, 80.1922], popup=" ", tooltip="click for mo
re info").add_to(m)
    m
if(str1 == address1):
    url1 = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quot
e(address1) + '?format=json'
    response = requests.get(url1).json()
    a = response[1]["lat"]
    b = response[1]["lon"]
    m = folium.Map(location = [a,b], zoom_start=15)
```

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    folium.Marker(location = [a,b],popup=" ",tooltip="click for more info").add_to(m)
folium.Marker(location = [22.6992, 75.8671],popup=" ",tooltip="click for more info").add_to(m)
folium.Marker(location = [13.0436, 80.1817],popup=" ",tooltip="click for more info").add_to(m)
#folium.Marker(location = [13.0532, 80.1922],popup=" ",tooltip="click for more info").add_to(m)
m
if(str1 == address2):
    url2 = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote(address2) + '?format=json'
    response = requests.get(url2).json()
    a = response[1]["lat"]
    b = response[1]["lon"]
    m = folium.Map(location = [a,b],zoom_start=15)
    folium.Marker(location = [a,b],popup=" Royapettah",tooltip="click for more info").add_to(m)
    folium.Marker(location = [13.0497, 80.2577],popup=" kodambakkam",tooltip="click for more info").add_to(m)
    folium.Marker(location = [13.047059, 80.264052],popup="Harshitha's home",tooltip="click for more info").add_to(m)
m
if(str1 == address3):
    url2 = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote(address3) + '?format=json'
    response = requests.get(url2).json()
    a = response[1]["lat"]
    b = response[1]["lon"]
    m = folium.Map(location = [a,b],zoom_start=15)
    folium.Marker(location = [a,b],popup=" Ambattur",tooltip="click for more info").add_to(m)
    folium.Marker(location = [13.0892, 80.1613],popup=" ",tooltip="click for more info").add_to(m)
    folium.Marker(location = [13.1142, 80.1527],popup=" ",tooltip="click for more info").add_to(m)
    folium.Marker(location = [13.1197, 80.1501],popup=" ",tooltip="click for more info").add_to(m)
m
if(str1 == address4):
    url3 = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote(address4) + '?format=json'
    response = requests.get(url3).json()
    a = response[1]["lat"]
    b = response[1]["lon"]

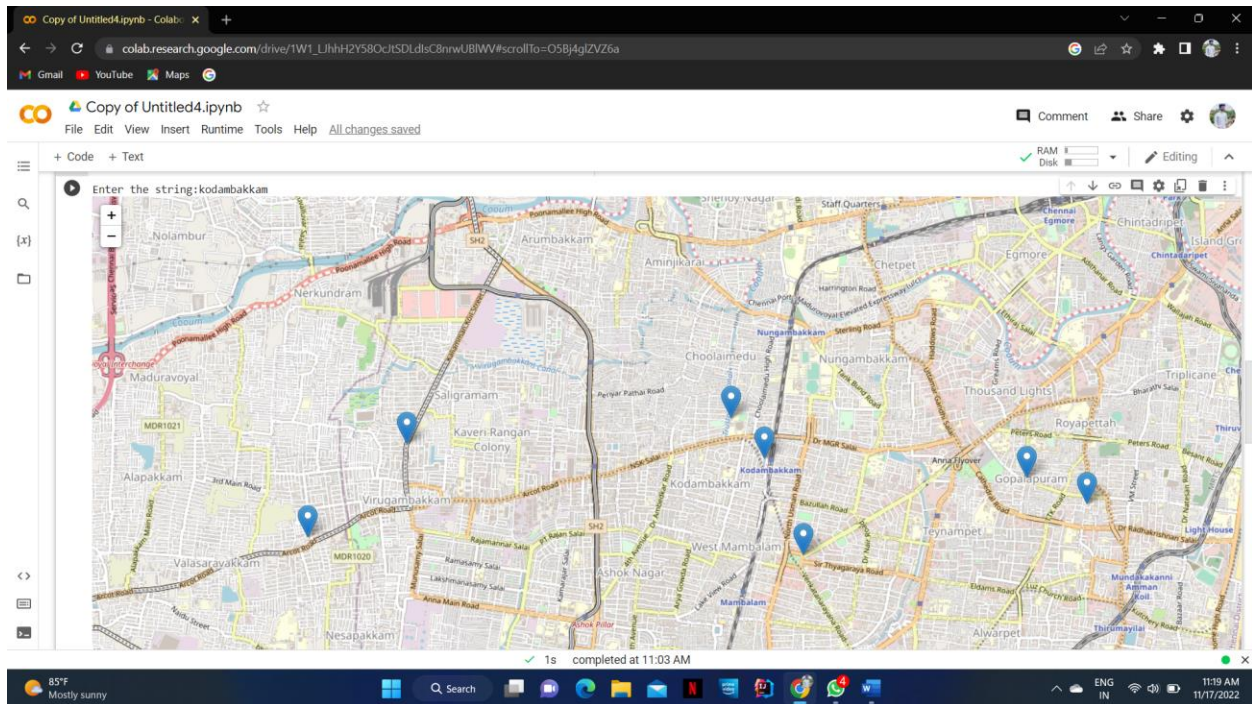
```

```

m = folium.Map(location = [a,b], zoom_start=15)
folium.Marker(location = [a,b], popup="Coimbatore", tooltip="click for more
info").add_to(m)
folium.Marker(location = [11.0242, 77.0028], popup=" ", tooltip="click for
more info").add_to(m)
folium.Marker(location = [10.822477, 77.016144], popup=" ", tooltip="click fo
r more info").add_to(m)
folium.Marker(location = [11.0102, 76.9504], popup=" ", tooltip="click for mo
re info").add_to(m)
m

```

BIN LOCATION ON MAP:



BIN STATUS:

```

import requests
import urllib.parse
import random
import time
address = ['kodambakkam', 'T.Nagar', 'West mambalam', 'vadapalani', 'ekkattuth
angal']

for x in address:

```

```

url = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote
(x) + '?format=json'
response = requests.get(url).json()
a = response[1]["lat"]
b = response[1]["lon"]
print("Latitude:",a)
print("Longitude:",b)
bin_stat = random.randint(0,100)
Inpercent=str(bin_stat) + "%"
print("The Bin is",bin_stat, "% full")

```

OUTPUT:

The screenshot shows a Google Colab notebook titled 'Copy of Untitled4.ipynb'. The code cell contains a script that generates random coordinates and a percentage value. The output cell shows the results of the script, which are printed out for each iteration of a loop.

```

for x in address:
    url = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote(x) + '?format=json'
    response = requests.get(url).json()
    a = response[1]["lat"]
    b = response[1]["lon"]
    print("Latitude:",a)
    print("Longitude:",b)
    bin_stat = random.randint(0,100)
    Inpercent=str(bin_stat) + "%"
    print("The Bin is",bin_stat, "% full")

```

```

Latitude: 13.0517176
Longitude: 80.2300054
The Bin is 84 % full
Latitude: 13.03969
Longitude: 80.23565
The Bin is 95 % full
Latitude: 13.038996
Longitude: 80.223169
The Bin is 91 % full
Latitude: 13.0495316
Longitude: 80.211027
The Bin is 90 % full
Latitude: 13.0169222
Longitude: 80.2054236
The Bin is 80 % full

```

At the bottom of the notebook, a status bar indicates that the code was completed at 11:03 AM.