

Calling a JSON API

In this assignment you will write a Python program somewhat similar to <http://www.py4e.com/code3/geojson.py>. The program will prompt for a location, contact a web service and retrieve JSON for the web service and parse that data, and retrieve the first **place_id** from the JSON. A place ID is a textual identifier that uniquely identifies a place as within Google Maps.

API End Points

To complete this assignment, you should use this API endpoint that has a static subset of the Google Data:

```
http://py4e-data.dr-chuck.net/json?
```

This API uses the same parameter (address) as the Google API. This API also has no rate limit so you can test as often as you like. If you visit the URL with no parameters, you get "No address..." response.

To call the API, you need to include a **key=** parameter and provide the address that you are requesting as the **address=** parameter that is properly URL encoded using the `urllib.parse.urlencode()` function as shown in <http://www.py4e.com/code3/geojson.py>

Make sure to check that your code is using the API endpoint as shown above. You will get *different* results from the **geojson** and **json** endpoints so make sure you are using the same end point as this autograder is using.

Test Data / Sample Execution

You can test to see if your program is working with a location of "South Federal University" which will have a **place_id** of "ChIJNeHD4p-540AR2Q0_ZjwmKJ8".

```
$ python3 solution.py
Enter location: South Federal University
Retrieving http://...
Retrieved 2445 characters
Place id ChIJNeHD4p-540AR2Q0_ZjwmKJ8
```

Turn In

Please run your program to find the **place_id** for this location:

```
Irkutsk State University
```

Make sure to enter the name and case exactly as above and enter the **place_id** and your Python code below. Hint: The first seven characters of the **place_id** are "ChIJweC ..."

Make sure to retrieve the data from the URL specified above and **not** the normal Google API. Your program should work with the Google API - but the **place_id** may not match for this assignment.

Command Prompt

C:\Users\mirey\OneDrive\Desktop>"C:\Users\mirey\OneDrive\Desktop\Using the GeoJSON API.py"

Enter location: Irkutsk State University

Retriving <http://py4e-data.dr-chuck.net/json?address=Irkutsk+State+University&key=42>

Retrived 2208 characters

```
{
  "results": [
    {
      "address_components": [
        {
          "long_name": "1",
          "short_name": "1",
          "types": [
            "street_number"
          ]
        },
        {
          "long_name": "Ulitsa Karla Marksa",
          "short_name": "Ulitsa Karla Marksa",
          "types": [
            "route"
          ]
        },
        {
          "long_name": "Irkutsk",
          "short_name": "Irkutsk",
          "types": [
            "locality",
            "political"
          ]
        },
        {
          "long_name": "Gorod Irkutsk",
          "short_name": "Gorod Irkutsk",
          "types": [
            "administrative_area_level_2",
            "political"
          ]
        },
        {
          "long_name": "Irkutskaya oblast'",
          "short_name": "Irkutskaya oblast'",
          "types": [
            "administrative_area_level_1",
            "political"
          ]
        },
        {
          "long_name": "Russia",
          "short_name": "RU",
          "types": [
            "country",
```

Select Command Prompt

```
    },
    {
      "long_name": "Russia",
      "short_name": "RU",
      "types": [
        "country",
        "political"
      ]
    },
    {
      "long_name": "664003",
      "short_name": "664003",
      "types": [
        "postal_code"
      ]
    }
  ],
  "formatted_address": "Ulitza Karla Marksa, 1, Irkutsk, Irkutskaya oblast', Russia, 664003",
  "geometry": {
    "location": {
      "lat": 52.2766643,
      "lng": 104.2777445
    },
    "location_type": "ROOFTOP",
    "viewport": {
      "northeast": {
        "lat": 52.27789438029151,
        "lng": 104.2793553302915
      },
      "southwest": {
        "lat": 52.27519641970851,
        "lng": 104.2766573697085
      }
    }
  },
  "partial_match": true,
  "place_id": "ChIJweCQBbckqF0RVcy-_a0xAz4",
  "plus_code": {
    "compound_code": "77GH+M3 Irkutsk, Irkutsk Oblast, Russia",
    "global_code": "9P4677GH+M3"
  },
  "types": [
    "establishment",
    "point_of_interest",
    "university"
  ]
}
],
"status": "OK"
}
Place id ChIJweCQBbckqF0RVcy-_a0xAz4
```