SI206 Discussion 8 API & JSON

Objective

- The purpose of today's section is to get familiar with API and JSON.
 - Create an API request
 - Get familiar with JSON viewer
 - Understand the difference between JSON format and python format
 - Analyze nested data
 - Debugging

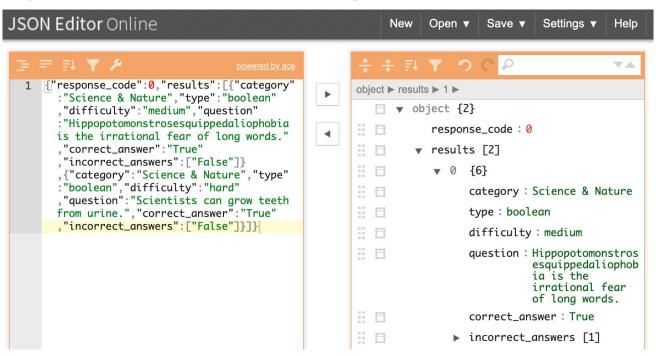
Understand the difference between JSON format and python format

```
url = "https://api.sunrise-sunset.org/json?
lat=36.7201600&lng=-4.4203400&date=today"
data1 = requests.get(url)  # receive response
data2 = data1.text  # request -> JSON object
data3 = json.loads(data2)  # JSON -> Python object
data4 = json.dumps(data3)  # Python -> JSON object
```

- data2 and data4 are identical
- You need to paste data2 or data4 to JSON Online Editor

JSON Editor Online: https://jsoneditoronline.org/#left=local.vigeci&right=local.sinece

- Google "JSON editor online"
- Just copy and paste JSON format strings.



Today's Task (more detail in starter code)

Use the World Bank API and get population for different countries

Demo:

Write a function get_population(country_code, date) that takes a country code (e.g. USA, BRA) and a date in years (e.g. 2017) that returns the value as an integer.

TASK 1:

Write a function get_data(country_code, first_year, second_year) that takes a country code (e.g. USA, BRA) and two consecutive years (e.g. 2004 and 2005) that returns the data from the API after converting it to a python list.

TASK 2:

Write a function population_growth(country_code, first_year, second_year) that calls get_data(country_code, first_year, second_year) and returns the population growth of the country for the two years in a tuple.

DEMO

Walking through how to solve get_gdp()

How to go about TASK 1?

- Read documentation for World Bank API
 https://datahelpdesk.worldbank.org/knowledgebase/articles/898581
- 2. What is the base URL of the World Bank API?
- What is the code for population information? (Scroll to "Featured Indicators" on the page below)
 - http://datatopics.worldbank.org/world-development-indicators/themes/people.html
- 4. How should the parameters about gdp, country, and year be combined with the base URL?