



# Python APIs

Data Boot Camp  
Lesson 6.2



# The Big Picture



## Module 6

# This Week: Python APIs

# This Week: Python APIs

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By the end of this week, you'll know how to:



Perform tasks and write functions using new Python libraries and modules



Retrieve and use data from an API "get" request to a server



Retrieve and store values from a JSON array



Use try-except blocks to resolve errors



Create scatter plots using the Matplotlib library, and apply styles and features to a plot



Perform linear regression and add regression lines to scatter plots



Create heatmaps and add markers using the Google Maps API



## **This Week's Challenge**

Using the skills learned this week, add features to an existing weather application to allow users to enter input statements to filter data, create travel itineraries, and more.

## Module 6

# Today's Agenda

# Today's Agenda

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By completing today's activities, you'll learn the following skills:

01

Google Maps API

02

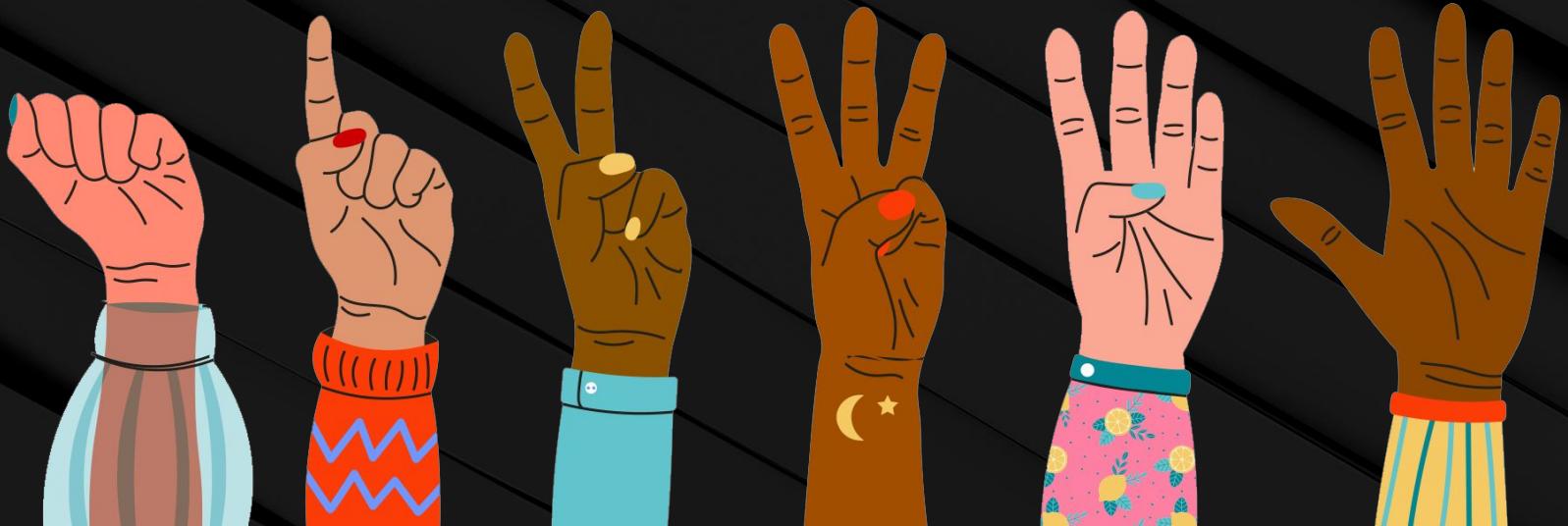


**Make sure you've downloaded  
any relevant class files!**

## FIST TO FIVE:

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How comfortable do you feel with this topic?







# Time to Code

## Google Maps API

Suggested Time:

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10 minutes



## Instructor Demonstration

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Google Geocode



**Remember:**

Printing the URL will also  
expose your key

# Google Geocode

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Run a Python request on the URL.



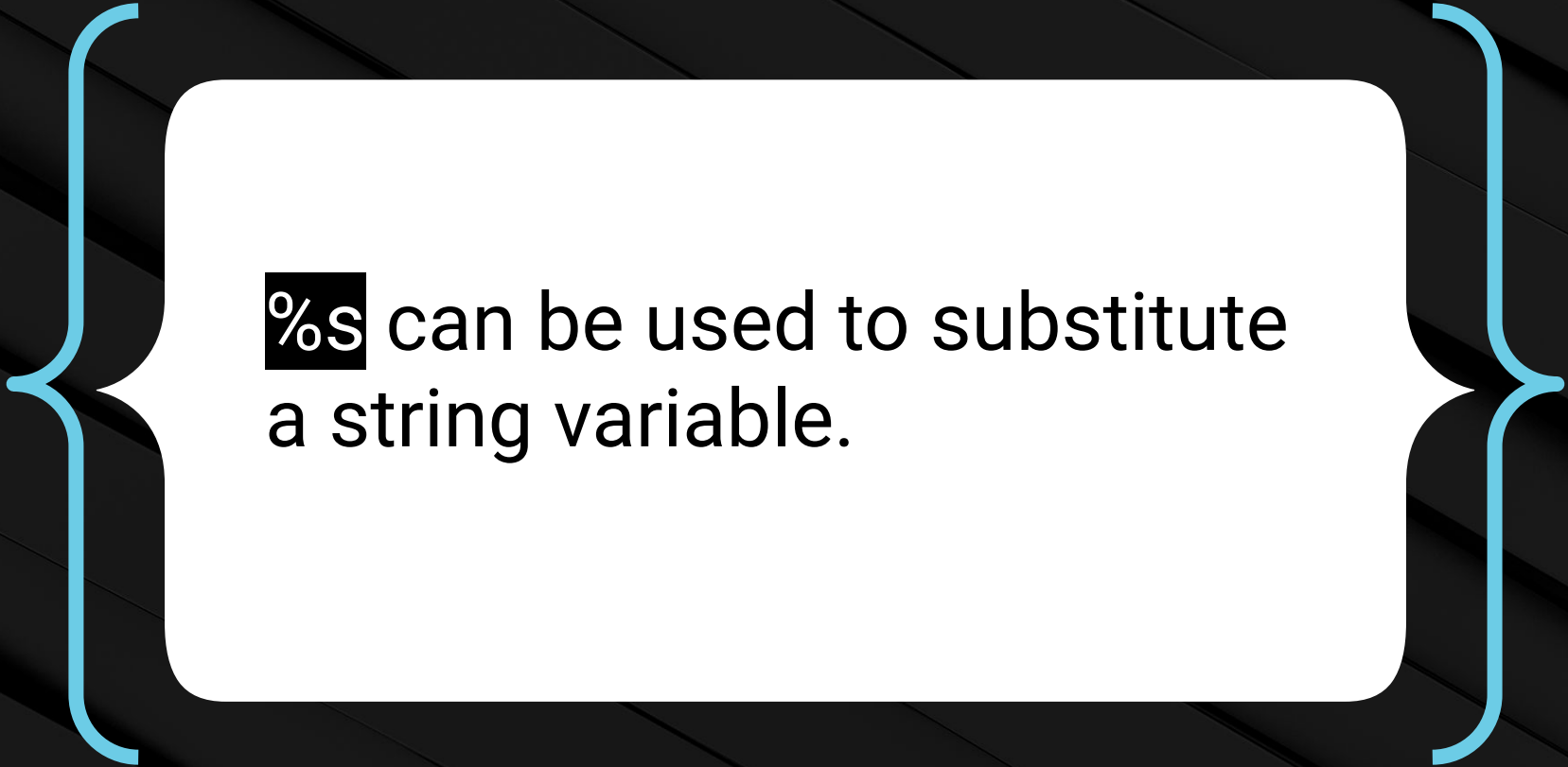
Explore the resulting JSON in a pretty-printed format.



Extract the desired components of the JSON: the latitude and longitude.



Format the results for printing.



`%s` can be used to substitute  
a string variable.

# Questions?





# Instructor Demonstration

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## Google Places

# Google Places

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**Nearby Search:** Searches for places within an area

```
https://maps.googleapis.com/maps/api/place/nearbysearch/output?parameters
```

**Text Search:** Returns info about a set of places based on a string

```
https://maps.googleapis.com/maps/api/place/textsearch/output?parameters
```

**Place Search:** Searches for place information based on category

```
https://maps.googleapis.com/maps/api/place/findplacefromtext/output?parameters
```





## Activity: Google Drills

In this activity, you will make calls to both the Google Places and Google Geocoding APIs.

**Suggested Time:**  
15 minutes



# Questions?



# Pandas with the Google API



During the last class, we learned  
how to make multiple queries  
and handle missing data using  
`try-except` and list comprehension



## Instructor Demonstration

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# Nearest Restaurants



## **Activity:** Google Complex (Airport)

In this activity, you will be tasked with obtaining the user rating for every airport in the top 100 metropolitan areas. They will be given a list of airports and cities, and will need to use the Google Geocoding API and Google Places API to obtain the rating information.

**Suggested Time:**  
15 minutes

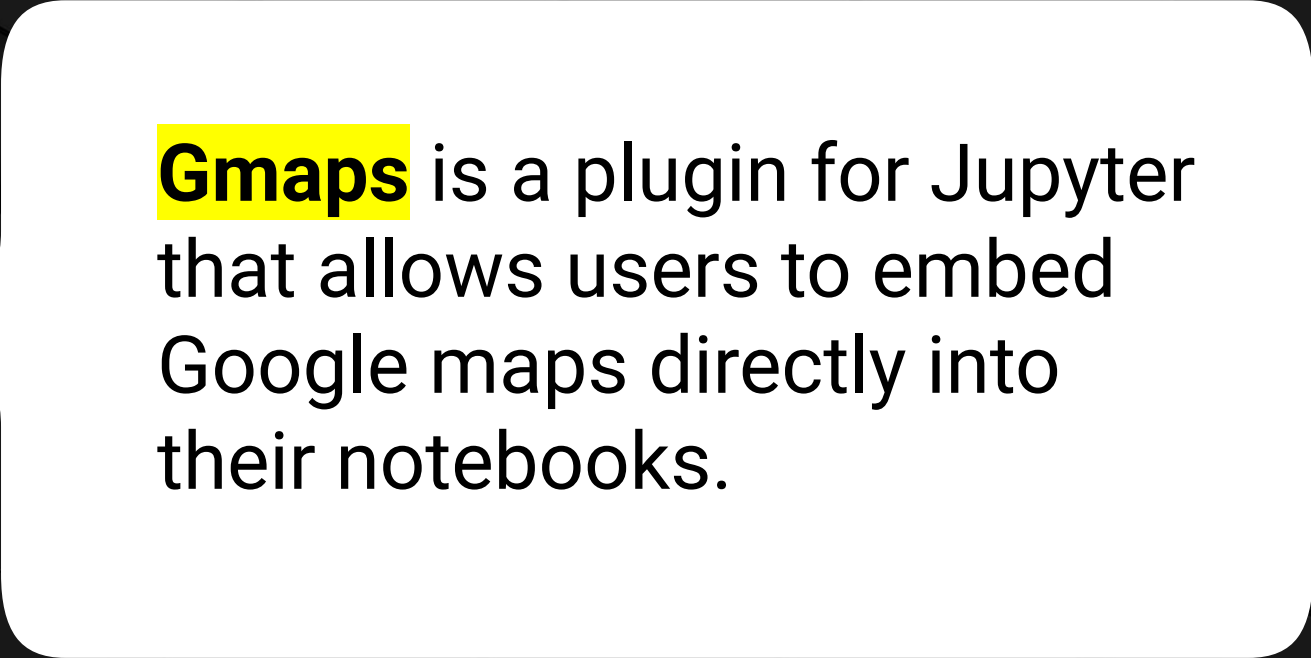




**Let's Review**

# Jupyter Gmaps

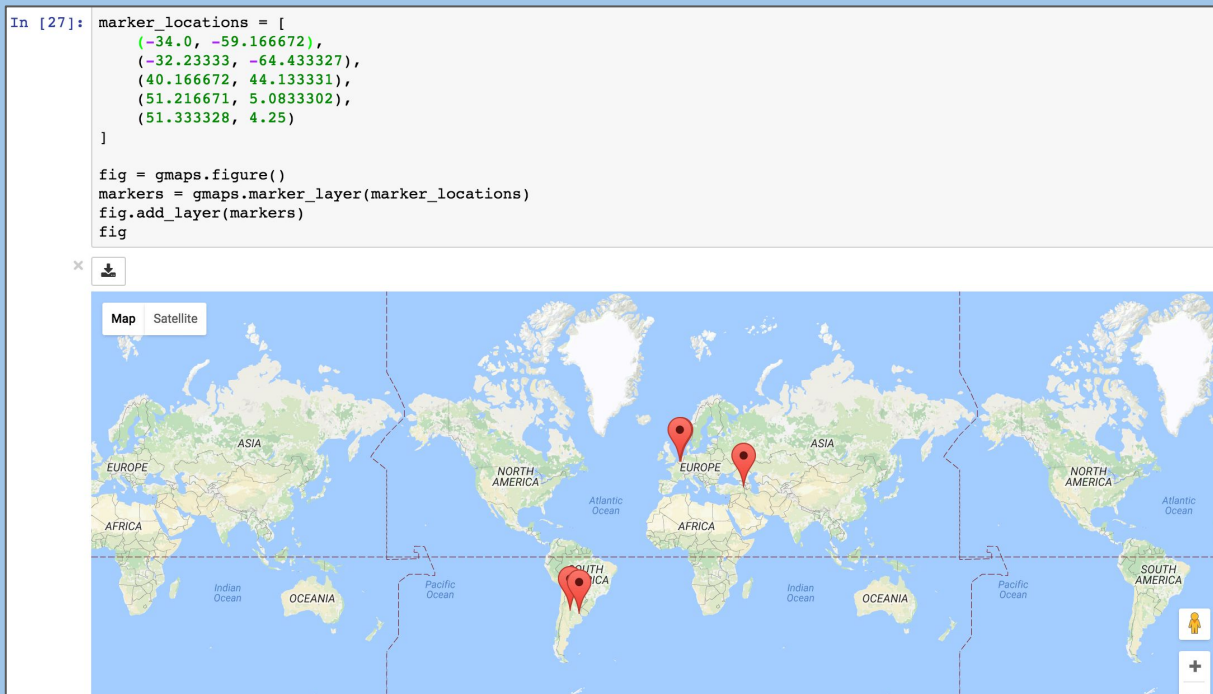




**Gmaps** is a plugin for Jupyter that allows users to embed Google maps directly into their notebooks.

# Jupyter Gmaps

This grants the ability to visualize multiple layers of data and to customize the appearance of the map.





# Time to Code

## Jupyter Gmaps

Suggested Time:

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10 minutes



## **Activity:** Hot Airports

In this activity, you will be tasked with creating a heat map based on the airport ratings obtained in a previous activity.

**Suggested Time:**  
15 minutes






**Let's Review**


# Creating Direction Maps



Google's Directions API allows us to plot routes on maps.



# Time to Code



## Itinerary

Suggested Time:

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15 minutes



# Questions?

