# Top Rated Restaurant Finder

For our project we created program that would fetch the top ten rated restaurants in a given city.

## Problem

The problem which our code is solving is that there are too many review sites giving conflicting reviews of restaurants in a city. This complicates the dining experience for the everyday person as if someone wants to eat at a highly rated restaurant they won't know whether or not the restaurant they're going to is actually good or not. This is due to the fact that they expect it to be as good as the reviews they've read and it their experience might not live up to their expectations. This also complicates the dining experience for the everyday person as they pass over restaurants which may be good but they get lost in the multiple review sites on the internet. Our code simplifies this by using the Zomato API to compile the top ten rated restaurants when given a city and plots them on a map for the user to see. This way the user has a reliable access to the top rated restaurants in a city and will improve their dining experiences.

## How the Interaction Works

Inputs: A single city and state. Or, just the name of a city.
Algorithm:

1. Use 'pip install zomato-sdk' in the anaconda prompt to prepare for the program.
2. Import zomato from Zomato, requests, json, pandas, folium and warnings.
3.Create a function for getting city data from the Zomato website.
4.Request a response from the Zomato API in json format. Use the user key to access the API.
5.Write a new function for parsing the city response taking the argument variable city.
6.Work through the city response to get the Zomato-specific city ID.
7.Write a function that uses the city_id to get a list of 10 top-rated restaurants in the given location. Request this list from the Zomato website.
8.Introduce a try statement to get rid of errors.
9.Ask the user for their input. Write a few statements detailing the program.
10.Run all of the functions to get the top ten restaurants. Set it equal to a variable.
11. Set i equal to 0 and initialize lists for restaurants, longitudes, latitudes and average reviews.
12. Introduce a definite loop. Use the loop to create a list of restaurants, latitudes, longitudes, and the average review for each location. Then increment i.
13. Use another definite loop to make the lists of latitudes and longitudes type integer for future use.
14. Close the Try-Except statement with some possible error exceptions. Most are simple and taken from CCL 11.
15. Create a pandas dataframe using the lists of restaurants, latitudes, longitudes and average reviews.
16.Next, we set the center of our map to the latitude and longitude of the first restaurant in the pandas dataframe. 17.Make sure that they are of type float.
18.Create the map with a zoom level of 12 for an appropriate view.
For each row in the dataframe, create a marker. The position will be the latitude and longitude while the popup will be the name of a restaurant and its average rating from the dataframe.
Finally, print out the map for the user.

Outputs: A map with 10 markers. Each marker, when clicked on, says the name of a restaurant in the area and an average rating out of 5.

## Tools Used

Zomato API, Jupyter Notebook, and Python Folium maps.