Look for the best location for a restaurant in Manhattan, New York City

1. Introduction

1.1 Background

A restaurant, or an eatery, is a business which prepares and serves food and drinks to customers in exchange for money. Meals are generally served and eaten on the premises, but many restaurants also offer take-out and food delivery services. Restaurants vary greatly in appearance and offerings, including a wide variety of cuisines and service models ranging from inexpensive fast food restaurants and cafeterias, to mid-priced family restaurants, to high-priced luxury establishments.

Around one thousand restaurants opened in 2019 in New York City. Eight hundred of them will go out of business within the next five years. We wouldn't be surprised if the fail rate is higher due to increased competition and a crappy economy.

1.2 Problem

If someone is looking to open a restaurant in New York City, where would be the best neighborhood? If the frequency of restaurant occurrence is lowest, he might get a higher chance to succeed since the competition is not so fierce in that neighborhood.

2. Data acquisition and cleaning

2.1 Data sources

In New York University Library, we can download the "New York City Neighborhood Names point file", created as a guide to New York City's neighborhoods that appear on the web resource, "New York: A City of Neighborhoods." Neighborhood has a total of 5 boroughs and 306 neighborhoods.

2.2 Data cleaning

Since the website already helped us to clean the data, we don't need to make additional efforts to clean the data.

2.3 Feature selection

We can use uniques categories and explore all the neighborhoods in Manhattan. We can find out there are 336 unique categories can be curated from all the returned venues. Therefore, we can analyze each neighborhood with these data.