Introduction

In this project, the similarity between Manhattan (New York) and Downtown Toronto (Toronto) will be compared. Say that there will be an upcoming holiday and you have two options for visit: New York and Toronto. Which one would you like to go? Let's compare them from the counts of Coffee Shop, Hotel, Café, Restaurant, Gastropub.

Exploratory Data Analysis

Two typical borough data will be intorudced to analyze the top 10 venues which may give some clues on wether they have the same popular venues.

Tornto Downtown venues distribution (> 20):

```
Coffee Shop              235
Café                131
Restaurant               83
Hotel               81
Italian Restaurant           58
Pizza Place              53
Bakery              53
Japanese Restaurant          50
Bar                 44
Gym                 37
American Restaurant          35
Vegetarian / Vegan Restaurant     33
Steakhouse               33
Gastropub                33
Sandwich Place           31
Park                29
Sushi Restaurant             28
Deli / Bodega            28
Grocery Store            28
Seafood Restaurant           26
Burger Joint             26
Breakfast Spot           25
Beer Bar            25
Chinese Restaurant           25
Thai Restaurant              24
Fast Food Restaurant         24
Pub                 23
Tea Room                 23
Ice Cream Shop           21
Art Gallery              20
```
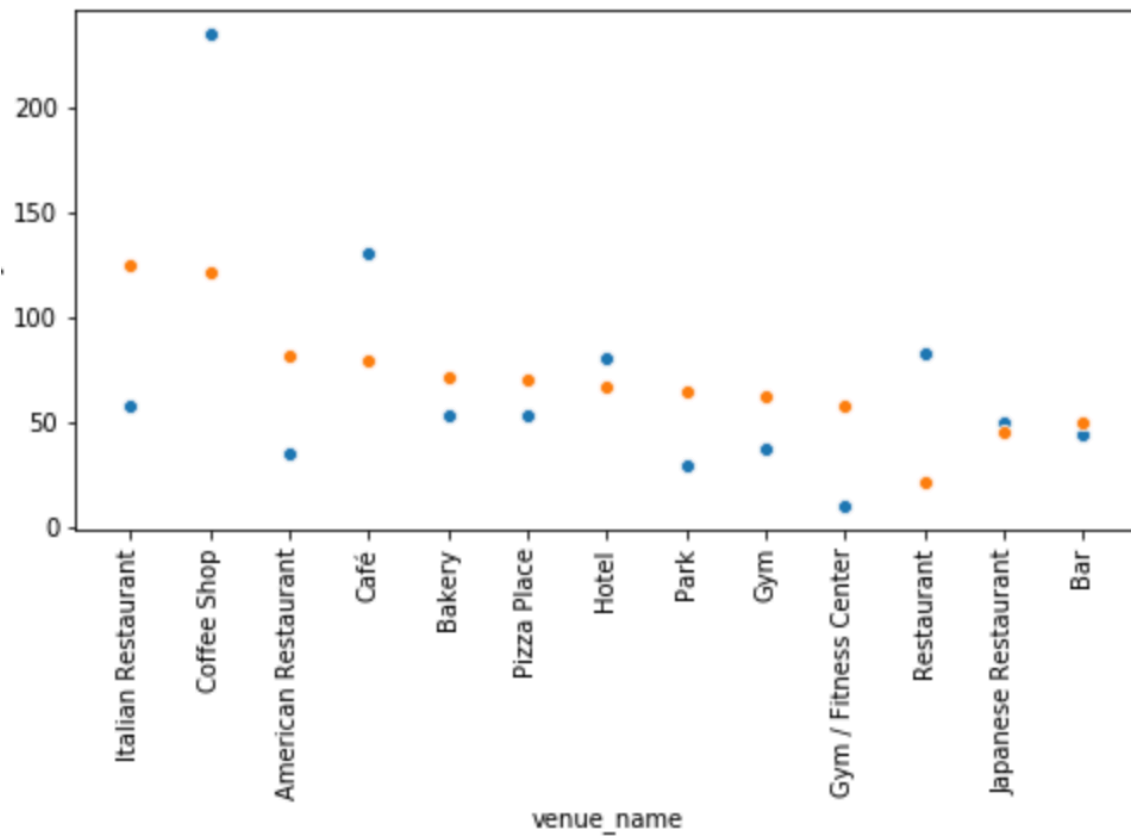
Manhattan venues distribution (> 20):
```
Italian Restaurant               125
Coffee Shop              122
American Restaurant              82
Café                80
```

Bakery	72
Pizza Place	70
Hotel	67
Park	65
Gym	62
Gym / Fitness Center	58
Mexican Restaurant	56
Cocktail Bar	56
French Restaurant	53
Spa	51
Bar	50
Sushi Restaurant	49
Chinese Restaurant	47
Japanese Restaurant	45
Sandwich Place	45
Wine Shop	44
Wine Bar	42
Ice Cream Shop	41
Clothing Store	40
Cosmetics Shop	39
Deli / Bodega	39
Seafood Restaurant	37
Yoga Studio	36
Indian Restaurant	32
Grocery Store	32
Art Gallery	30
Burger Joint	30
Mediterranean Restaurant	30
Theater	30
Thai Restaurant	29
Juice Bar	26
New American Restaurant	26
Bookstore	26
Steakhouse	26
Vegetarian / Vegan Restaurant	25
Boutique	24
Dessert Shop	23
Salon / Barbershop	22
Sporting Goods Shop	21
Greek Restaurant	21
Restaurant	21
Furniture / Home Store	21
Korean Restaurant	20
Bagel Shop	20
Ramen Restaurant	20

Top 10 venues in both areas

One-way anova analysis in the count of venues in two ares:

```
F_onewayResult(statistic=0.0073466389126974185, pvalue=0.9324059881993899)
```

Conclusion

1. pvalue >> 0.05 which indicates that the top 10 venues in Toronto Downtown and Manhattan have no obvious difference. The count of Coffee Shop, Hotel, Café, Restaurant, Gastropub have similarity.

2. The types in top 20 venues in Manhattan is larger than Toronto Downtown which indicates that Manhattan enjoys more desity and diversity of venues