

Table Booking and Online Delivery Analysis

Dataset Loading

We load the dataset and inspect its structure to understand the available data.

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

file_path = 'C:/Users/ganes/Downloads/rayuduintern/Dataset .csv'
df = pd.read_csv(file_path)

df.head()
```

	Restaurant ID	Restaurant Name	Country Code	
City \				
0	6317637	Le Petit Souffle	162	Makati
City				
1	6304287	Izakaya Kikufuji	162	Makati
City				
2	6300002	Heat - Edsa Shangri-La	162	Mandaluyong
City				
3	6318506	Ooma	162	Mandaluyong
City				
4	6314302	Sambo Kojin	162	Mandaluyong
City				

```
Address \
```

0	Third Floor, Century City Mall, Kalayaan Avenu...
1	Little Tokyo, 2277 Chino Roces Avenue, Legaspi...
2	Edsa Shangri-La, 1 Garden Way, Ortigas, Mandal...
3	Third Floor, Mega Fashion Hall, SM Megamall, O...
4	Third Floor, Mega Atrium, SM Megamall, Ortigas...

```
Locality \
```

0	Century City Mall, Poblacion, Makati City
1	Little Tokyo, Legaspi Village, Makati City
2	Edsa Shangri-La, Ortigas, Mandaluyong City
3	SM Megamall, Ortigas, Mandaluyong City
4	SM Megamall, Ortigas, Mandaluyong City

```
Locality Verbose Longitude
```

Latitude \	
0	Century City Mall, Poblacion, Makati City, Mak... 121.027535
14.565443	
1	Little Tokyo, Legaspi Village, Makati City, Ma... 121.014101

```

14.553708
2 Edsa Shangri-La, Ortigas, Mandaluyong City, Ma... 121.056831
14.581404
3 SM Megamall, Ortigas, Mandaluyong City, Mandal... 121.056475
14.585318
4 SM Megamall, Ortigas, Mandaluyong City, Mandal... 121.057508
14.584450

```

	Cuisines	...	Currency	Has Table
booking \				
0	French, Japanese, Desserts	...	Botswana Pula(P)	
Yes				
1	Japanese	...	Botswana Pula(P)	
Yes				
2	Seafood, Asian, Filipino, Indian	...	Botswana Pula(P)	
Yes				
3	Japanese, Sushi	...	Botswana Pula(P)	
No				
4	Japanese, Korean	...	Botswana Pula(P)	
Yes				

	Has Online delivery	Is delivering now	Switch to order menu	Price range
\				
0	No	No	No	
3				
1	No	No	No	
3				
2	No	No	No	
4				
3	No	No	No	
4				
4	No	No	No	
4				

	Aggregate rating	Rating color	Rating text	Votes
0	4.8	Dark Green	Excellent	314
1	4.5	Dark Green	Excellent	591
2	4.4	Green	Very Good	270
3	4.9	Dark Green	Excellent	365
4	4.8	Dark Green	Excellent	229

[5 rows x 21 columns]

Data Preprocessing

```

df = df.dropna(subset=['Has Table booking', 'Has Online delivery',
'Aggregate rating', 'Price range'])
df['Has Table booking'] = df['Has Table booking'].map({'Yes': 1, 'No':
0})

```

```
df['Has Online delivery'] = df['Has Online delivery'].map({'Yes': 1,
'No': 0})

df.info()

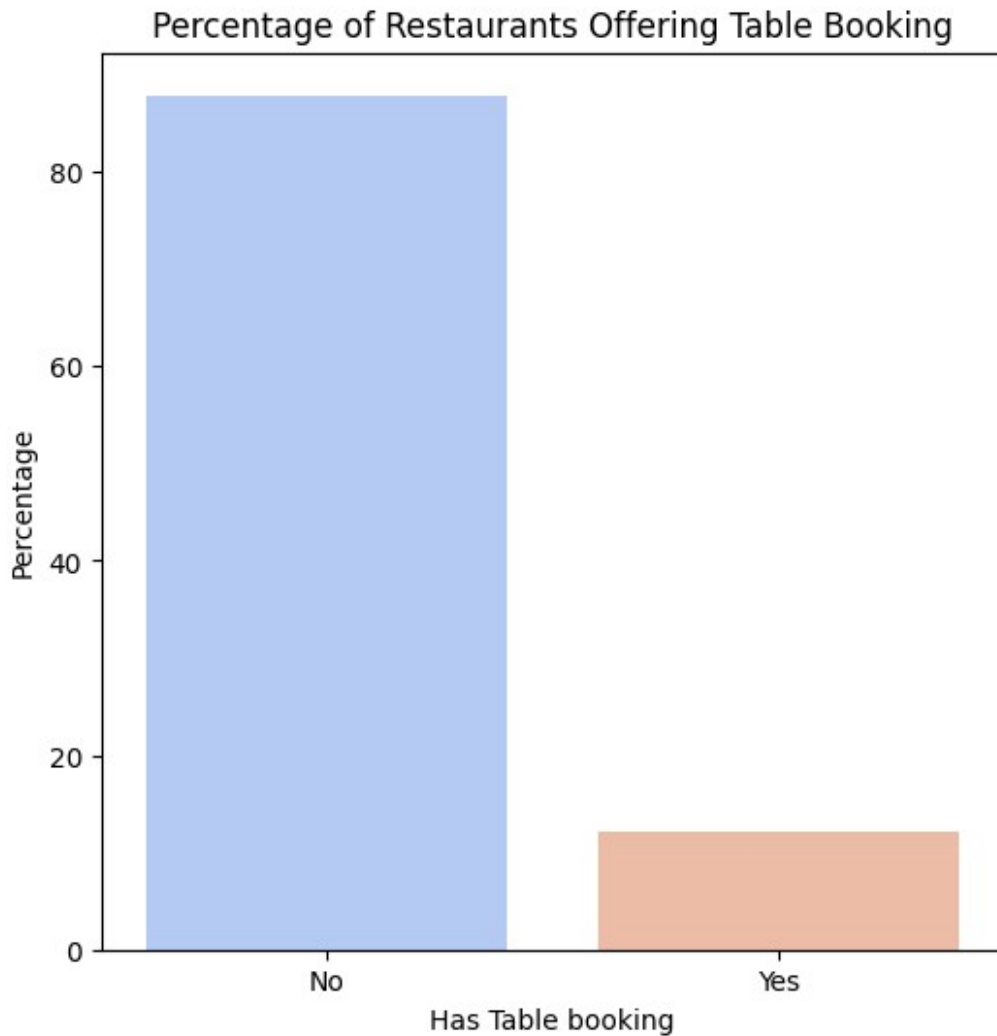
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 9551 entries, 0 to 9550
Data columns (total 21 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Restaurant ID                        9551 non-null   int64
1   Restaurant Name                      9551 non-null   object
2   Country Code                        9551 non-null   int64
3   City                                9551 non-null   object
4   Address                             9551 non-null   object
5   Locality                            9551 non-null   object
6   Locality Verbose                    9551 non-null   object
7   Longitude                           9551 non-null   float64
8   Latitude                            9551 non-null   float64
9   Cuisines                            9542 non-null   object
10  Average Cost for two                 9551 non-null   int64
11  Currency                            9551 non-null   object
12  Has Table booking                   9551 non-null   int64
13  Has Online delivery                 9551 non-null   int64
14  Is delivering now                   9551 non-null   object
15  Switch to order menu                9551 non-null   object
16  Price range                         9551 non-null   int64
17  Aggregate rating                    9551 non-null   float64
18  Rating color                        9551 non-null   object
19  Rating text                         9551 non-null   object
20  Votes                              9551 non-null   int64
dtypes: float64(3), int64(7), object(11)
memory usage: 1.5+ MB
```

Table Booking Analysis

Percentage of restaurants that offer table booking.

```
table_booking_counts = df['Has Table
booking'].value_counts(normalize=True) * 100

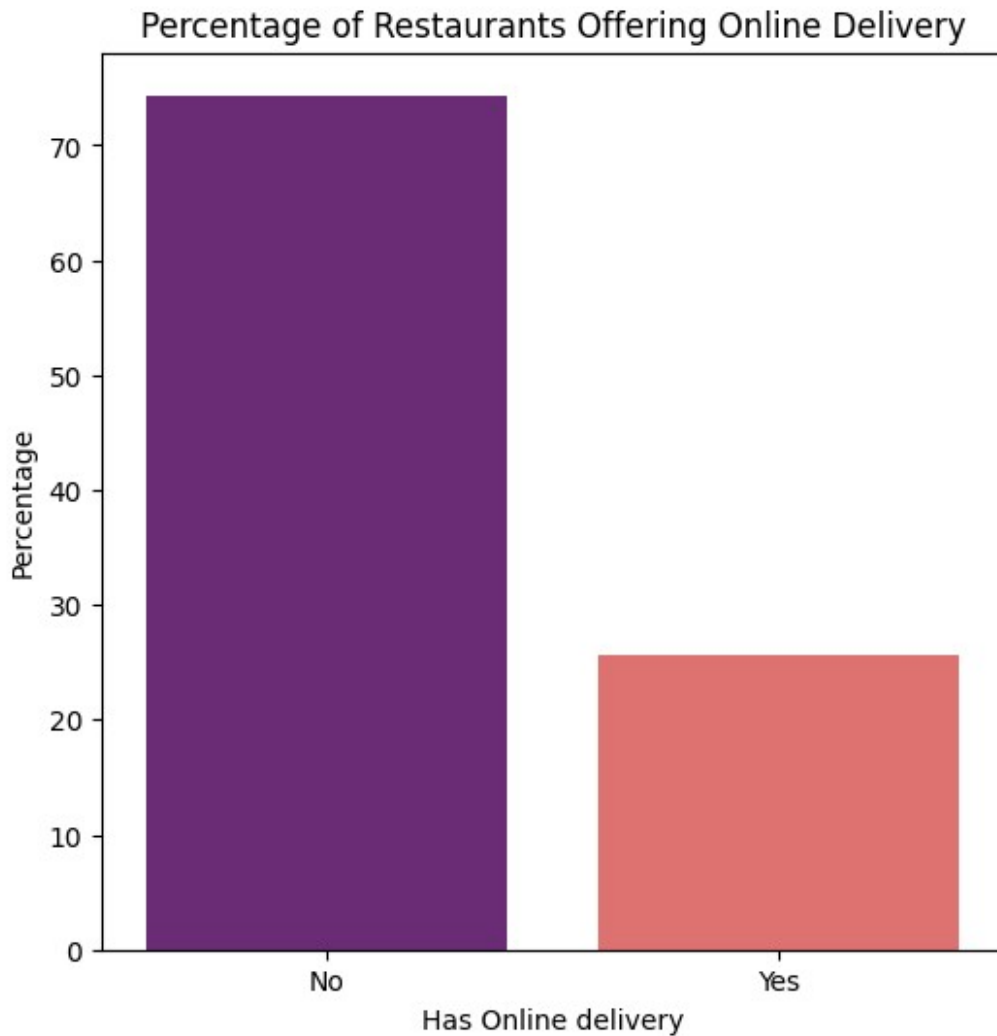
plt.figure(figsize=(6,6))
sns.barplot(x=table_booking_counts.index,
y=table_booking_counts.values, palette='coolwarm')
plt.title('Percentage of Restaurants Offering Table Booking')
plt.xticks([0,1], ['No', 'Yes'])
plt.ylabel('Percentage')
plt.show()
```



Online Delivery Analysis

Percentage of restaurants that offer online delivery.

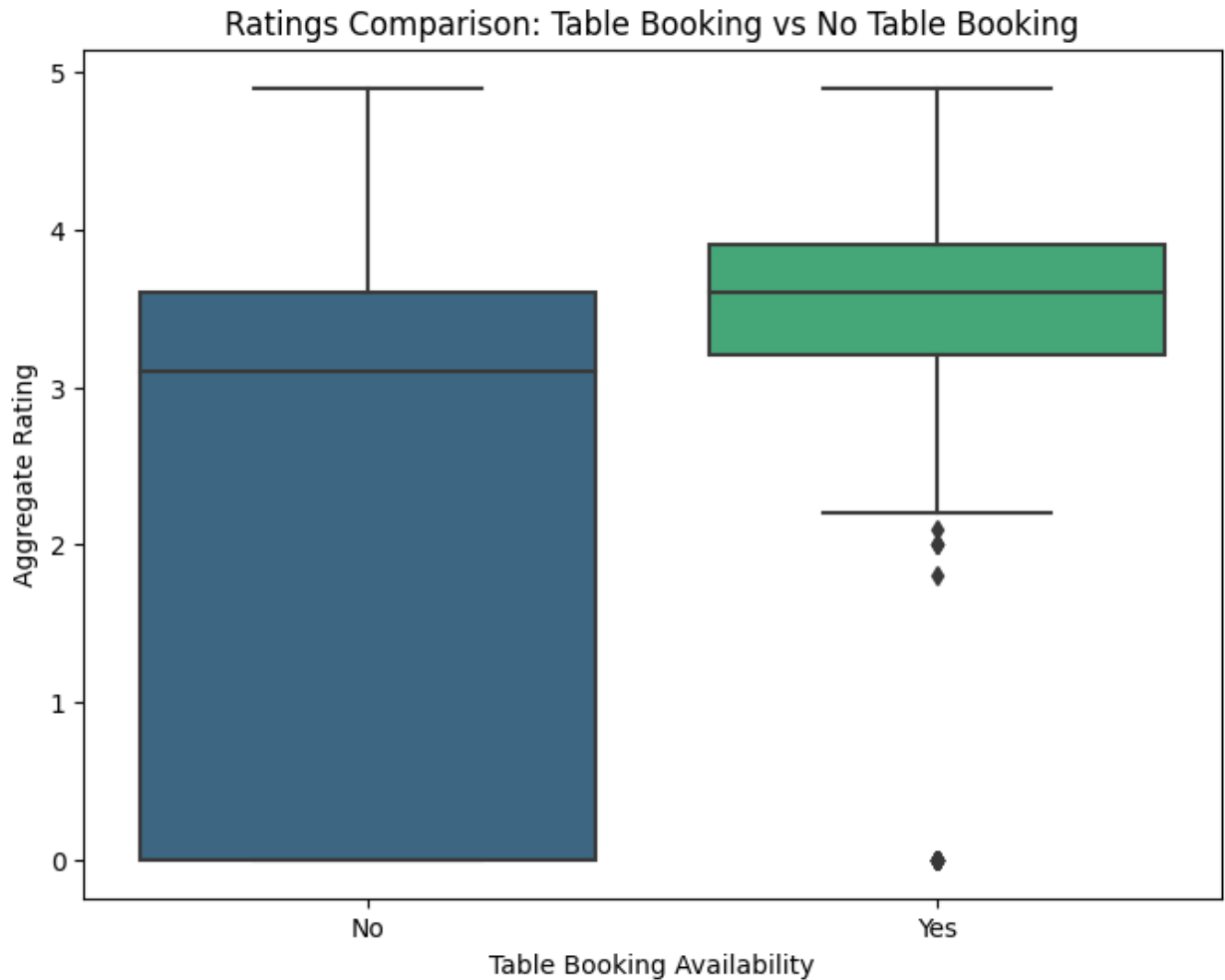
```
online_delivery_counts = df['Has Online  
delivery'].value_counts(normalize=True) * 100  
  
plt.figure(figsize=(6,6))  
sns.barplot(x=online_delivery_counts.index,  
y=online_delivery_counts.values, palette='magma')  
plt.title('Percentage of Restaurants Offering Online Delivery')  
plt.xticks([0,1], ['No', 'Yes'])  
plt.ylabel('Percentage')  
plt.show()
```



Comparison of Ratings

Comparing the average ratings of restaurants that offer table booking and those that do not.

```
plt.figure(figsize=(8,6))
sns.boxplot(x=df['Has Table booking'], y=df['Aggregate rating'],
palette='viridis')
plt.title('Ratings Comparison: Table Booking vs No Table Booking')
plt.xticks([0,1], ['No', 'Yes'])
plt.xlabel('Table Booking Availability')
plt.ylabel('Aggregate Rating')
plt.show()
```



Online Delivery vs Price Range

Analyzing the availability of online delivery across different price ranges.

```
plt.figure(figsize=(8,6))
sns.countplot(x=df['Price range'], hue=df['Has Online delivery'],
palette='coolwarm')
plt.title('Online Delivery Availability Across Price Ranges')
plt.xlabel('Price Range')
plt.ylabel('Number of Restaurants')
plt.legend(title='Online Delivery', labels=['No', 'Yes'])
plt.show()
```



Additional Insights

Exploring the correlation between online delivery, table booking, and ratings.

```
sns.pairplot(df[['Has Table booking', 'Has Online delivery',  
'Aggregate rating']], hue='Has Online delivery', palette='coolwarm')  
plt.show()
```

```
C:\Users\ganes\AppData\Local\Programs\Python\Python311\Lib\site-  
packages\seaborn\axisgrid.py:118: UserWarning: The figure layout has  
changed to tight  
    self._figure.tight_layout(*args, **kwargs)
```

