Task 1: Table Booking and Online Delivery

In [3]:
```
import pandas as pd
```

In [5]:
```
df = pd.read_csv("Dataset .csv")
```

In [ ]:
```
# 1. Percentage of restaurants offering table booking and online delivery
```

In [4]:
```
total_restaurants = len(df)
```

In [6]:
```
table_booking_count = len(df[df['Has Table booking'] == 'Yes'])
table_booking_percentage = (table_booking_count / total_restaurants) * 100
```

In [7]:
```
online_delivery_count = len(df[df['Has Online delivery'] == 'Yes'])
online_delivery_percentage = (online_delivery_count / total_restaurants) * 100
```

In [8]:
```
print(f"Percentage of restaurants offering table booking: {table_booking_percentage
print(f"Percentage of restaurants offering online delivery: {online_delivery_percer
```

```
Percentage of restaurants offering table booking: 12.12%
Percentage of restaurants offering online delivery: 25.66%
```

In [ ]:
```
#2. Compare average ratings of restaurants with and without table booking
```

In [9]:
```
average_rating_with_table_booking = df[df['Has Table booking'] == 'Yes']['Aggregate
average_rating_without_table_booking = df[df['Has Table booking'] == 'No']['Aggrega
```

In [10]:
```
print(f"Average rating with table booking: {average_rating_with_table_booking:.2f}'
print(f"Average rating without table booking: {average_rating_without_table_booking
```

```
Average rating with table booking: 3.44
Average rating without table booking: 2.56
```

In [ ]:
```
# 3. Analyze availability of online delivery among restaurants with different price
```

In [11]:
```
price_ranges = df['Price range'].unique()
```

In [12]:
```
for price in price_ranges:
    total_in_price_range = len(df[df['Price range'] == price])
    online_delivery_in_price_range = len(df[(df['Price range'] == price) & (df['Has
    online_delivery_percentage_in_price_range = (online_delivery_in_price_range / t
```

In [13]:
```
print(f"Percentage of restaurants with online delivery in price range {price}: {onl
```

```
Percentage of restaurants with online delivery in price range 1: 15.77%
```

Task 2: Price Range Analysis

In [1]:
```
import pandas as pd
```

In [2]:
```
data = pd.read_csv('Dataset .csv')
```

In [3]:
```
# 1. Determine the most common price range
```

In [4]:
```
most_common_price_range = data['Price range'].value_counts().idxmax()
print("Most common price range:", most_common_price_range)
```

```
Most common price range: 1
```

In [5]:
```
# 2. Calculate the average rating for each price range
```

In [6]:
```
average_ratings_by_price_range = data.groupby('Price range')['Aggregate rating'].me
print("Average ratings for each price range:\n", average_ratings_by_price_range)
```

```
Average ratings for each price range:
 Price range
1    1.999887
2    2.941054
3    3.683381
4    3.817918
Name: Aggregate rating, dtype: float64
```

In [7]:
```
# 3. Identify the color representing the highest average rating
```

In [8]:
```
highest_average_rating_price_range = average_ratings_by_price_range.idxmax()
highest_average_rating_color = data[data['Price range'] == highest_average_rating_p
print("Color representing the highest average rating:", highest_average_rating_colo
```

```
Color representing the highest average rating: Green
```

Task 3: Feature Engineering

In [9]:
```
import pandas as pd
```

In [10]:
```
df = pd.read_csv('Dataset .csv')
```

In [13]:
```
# 1. Extract Additional Features
```

In [15]:
```
df['Restaurant Name Length'] = df['Restaurant Name'].apply(len)
df['Address Length'] = df['Address'].apply(len)
```

In [16]:
```
# 2. Create New Features
```

In [19]:
```
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})
```

In [20]:
```
print(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  ...  Switch to order menu Price range  \
0       French, Japanese, Desserts  ...                    No           3
1                         Japanese  ...                    No           3
2  Seafood, Asian, Filipino, Indian  ...                    No           4
3                  Japanese, Sushi  ...                    No           4
4                 Japanese, Korean  ...                    No           4

  Aggregate rating Rating color Rating text Votes  Restaurant Name Length  \
0              4.8   Dark Green   Excellent   314                      16
1              4.5   Dark Green   Excellent   591                      16
2              4.4        Green   Very Good   270                      22
3              4.9   Dark Green   Excellent   365                       4
4              4.8   Dark Green   Excellent   229                      11

   Address Length Has Table Booking Has Online Delivery
0              71                 1                   0
1              67                 1                   0
2              56                 1                   0
3              70                 0                   0
4              64                 1                   0

[5 rows x 25 columns]
```