In [3]:
```
print("Hello")
```

```
Hello
```

In [42]:
```
#importing libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

In [44]:
```
#creating dataframe
dataframe = pd.read_csv("D:\Zomato data .csv")
print(dataframe.head())
```

```
                  name online_order book_table   rate  votes  \
0                Jalsa          Yes        Yes  4.1/5    775
1        Spice Elephant          Yes         No  4.1/5    787
2       San Churro Cafe          Yes         No  3.8/5    918
3  Addhuri Udupi Bhojana           No         No  3.7/5     88
4          Grand Village           No         No  3.8/5    166

   approx_cost(for two people) listed_in(type)
0                          800          Buffet
1                          800          Buffet
2                          800          Buffet
3                          300          Buffet
4                          600          Buffet
```

```
<>:2: SyntaxWarning: invalid escape sequence '\Z'
<>:2: SyntaxWarning: invalid escape sequence '\Z'
C:\Users\Asus\AppData\Local\Temp\ipykernel_680\1068807082.py:2: SyntaxWarning: in
valid escape sequence '\Z'
  dataframe = pd.read_csv("D:\Zomato data .csv")
```

In [46]:
```
#ratings
def handleRate(value):
        value=str(value).split('/')
        value=value[0];
        return float(value)

dataframe['rate']=dataframe['rate'].apply(handleRate)
print(dataframe.head())
```

```
                  name online_order book_table  rate  votes  \
0                Jalsa          Yes        Yes   4.1    775
1        Spice Elephant          Yes         No   4.1    787
2       San Churro Cafe          Yes         No   3.8    918
3  Addhuri Udupi Bhojana           No         No   3.7     88
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   approx_cost(for two people) listed_in(type)
0                          800          Buffet
1                          800          Buffet
2                          800          Buffet
3                          300          Buffet
4                          600          Buffet
```

In [40]:
```
#for ratings
def handleRate(value):
        value=str(value).split('/')
```

```
        value=value[0];
        return float(value)

dataframe['rate']=dataframe['rate'].apply(handleRate)
print(dataframe.head())
```

```
                  name online_order book_table  rate  votes  \
0                Jalsa          Yes        Yes   4.1    775
1         Spice Elephant          Yes         No   4.1    787
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   approx_cost(for two people) listed_in(type)
0                          800          Buffet
1                          800          Buffet
2                          800          Buffet
3                          300          Buffet
4                          600          Buffet
```
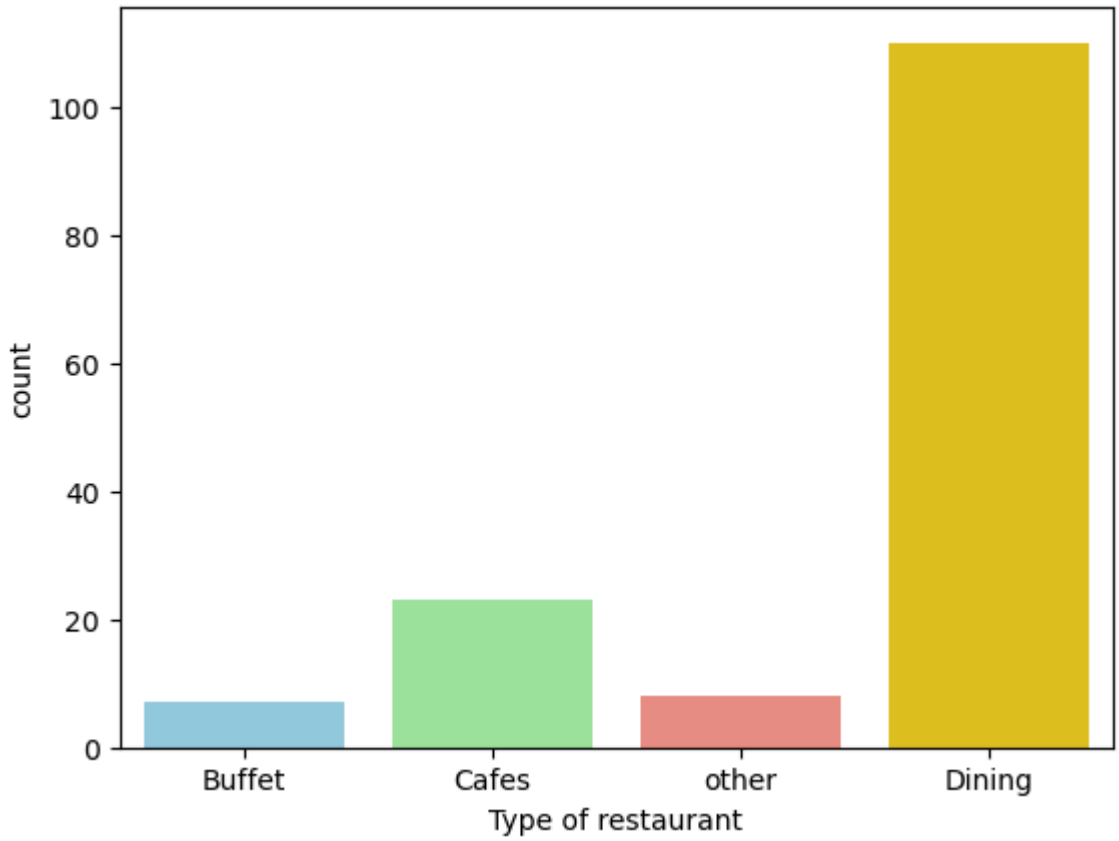

In [50]:
```
#summary of the data frame
dataframe.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 148 entries, 0 to 147
Data columns (total 7 columns):
 #   Column                       Non-Null Count  Dtype
---  ------                       --------------  -----
 0   name                         148 non-null    object
 1   online_order                 148 non-null    object
 2   book_table                   148 non-null    object
 3   rate                         148 non-null    float64
 4   votes                        148 non-null    int64
 5   approx_cost(for two people)  148 non-null    int64
 6   listed_in(type)              148 non-null    object
dtypes: float64(1), int64(2), object(4)
memory usage: 8.2+ KB
```

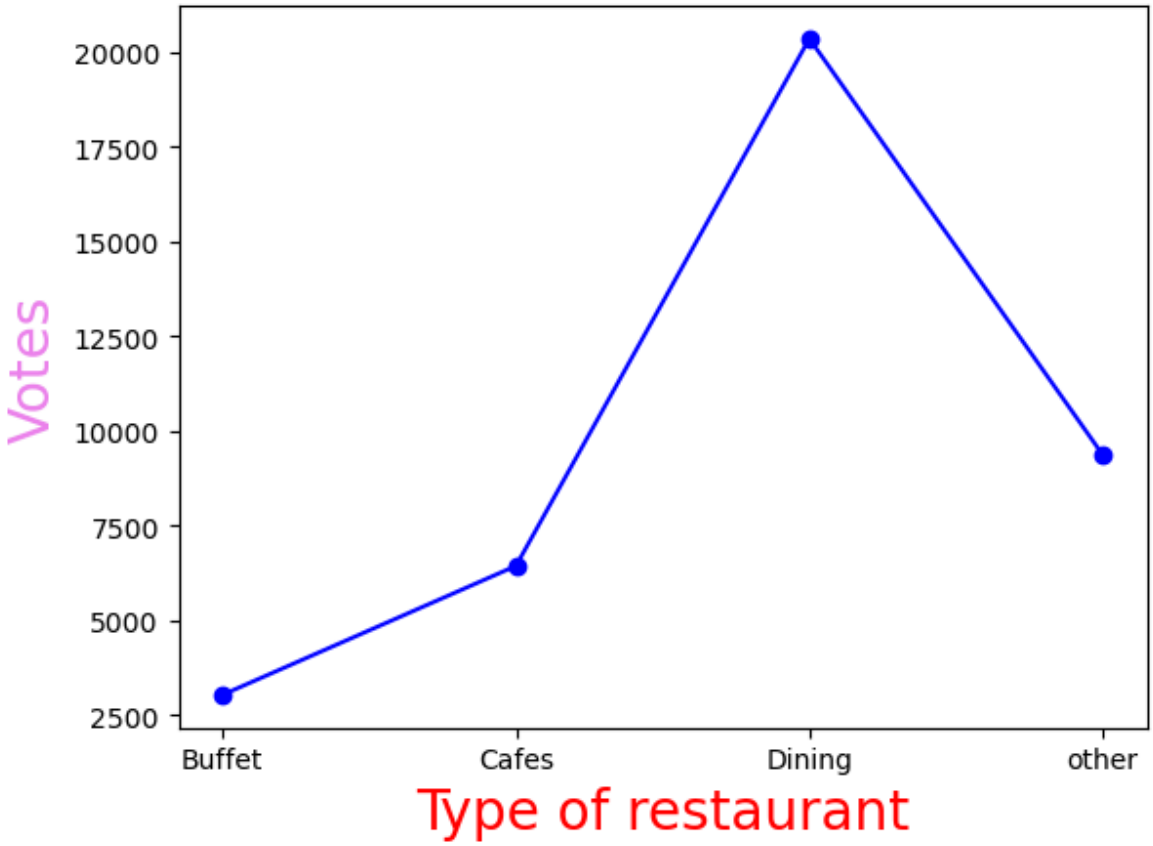
In [76]:
```
#listed_in (type) column.
type_counts = dataframe['listed_in(type)'].value_counts()

# Define a color palette with exactly as many colors as there are categories
custom_colors = ['skyblue', 'lightgreen', 'salmon', 'gold']  # Adjust the number

# Plot the countplot with the adjusted color palette
sns.countplot(x=dataframe['listed_in(type)'], palette=custom_colors)
plt.xlabel("Type of restaurant")
plt.show()
```

```
C:\Users\Asus\AppData\Local\Temp\ipykernel_680\2779457228.py:8: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v
0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effe
ct.

  sns.countplot(x=dataframe['listed_in(type)'], palette=custom_colors)
```



In [78]:
```
grouped_data = dataframe.groupby('listed_in(type)')['votes'].sum()
result = pd.DataFrame({'votes': grouped_data})
plt.plot(result, c="blue", marker="o")
plt.xlabel("Type of restaurant", c="red", size=20)
plt.ylabel("Votes", c="violet", size=20)
```

Out[78]: Text(0, 0.5, 'Votes')

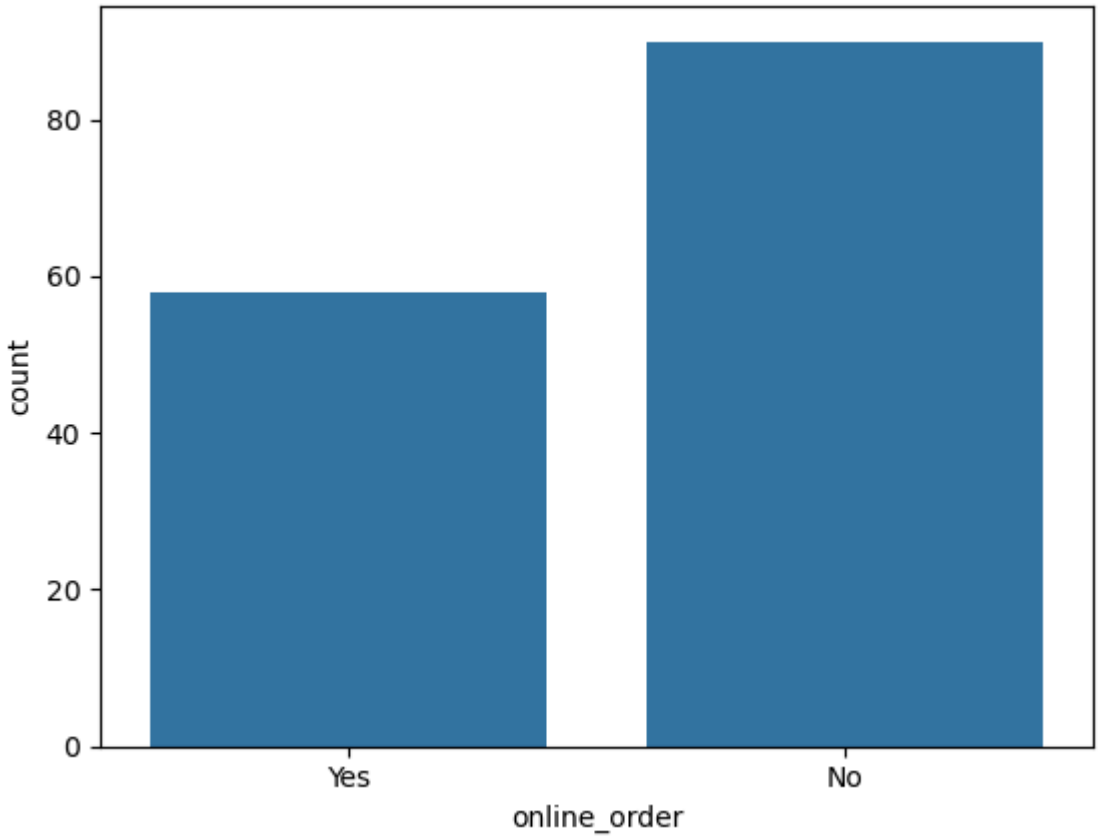


In [80]:
```
#max votes
max_votes = dataframe['votes'].max()
restaurant_with_max_votes = dataframe.loc[dataframe['votes'] == max_votes, 'name

print("Restaurant(s) with the maximum votes:")
print(restaurant_with_max_votes)
```

```
Restaurant(s) with the maximum votes:
38    Empire Restaurant
Name: name, dtype: object
```

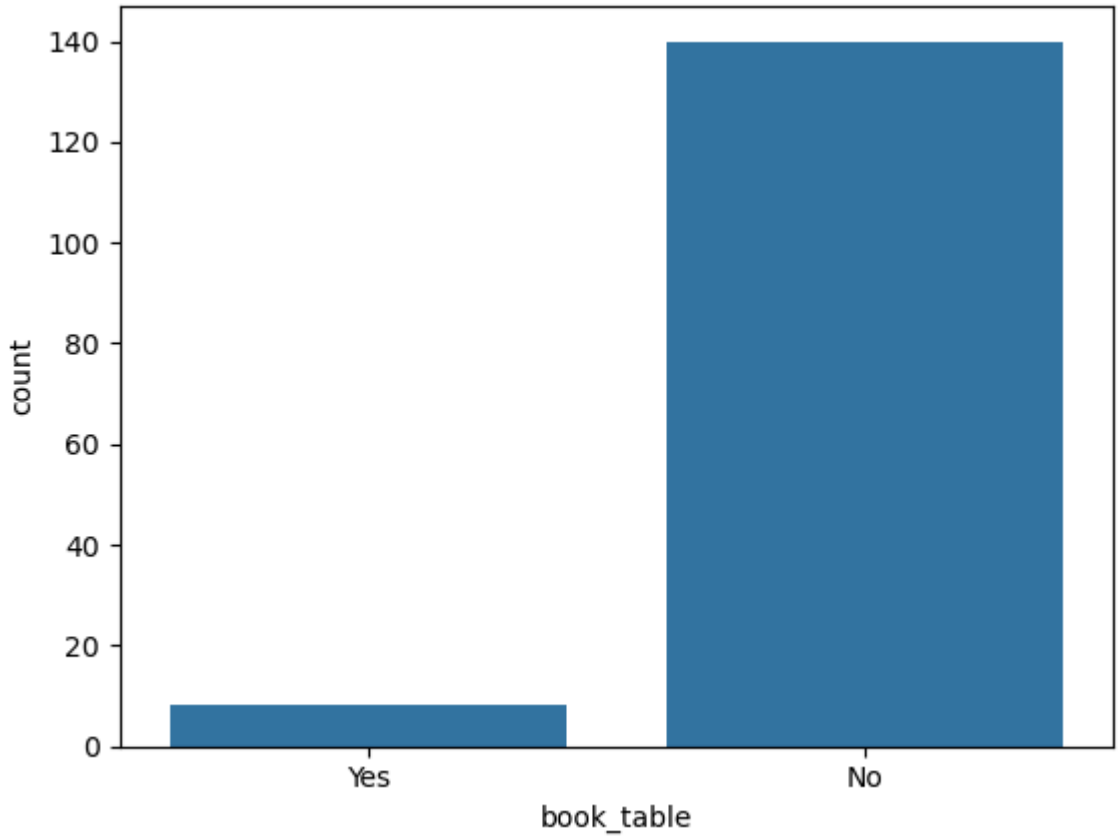
In [90]:
```
sns.countplot(x=dataframe['online_order'])
```

Out[90]: <Axes: xlabel='online_order', ylabel='count'>



In [92]:
```
sns.countplot(x=dataframe['book_table'])
```

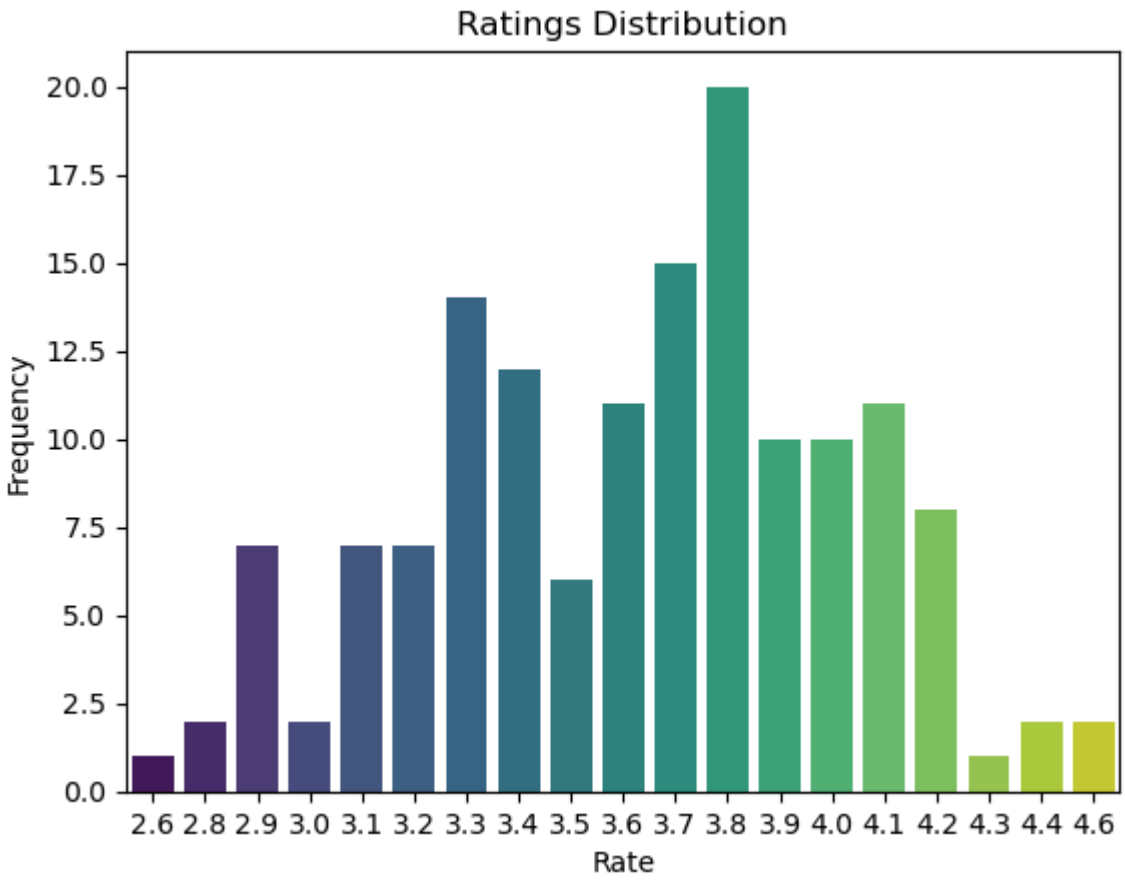
Out[92]: <Axes: xlabel='book_table', ylabel='count'>



In [108…

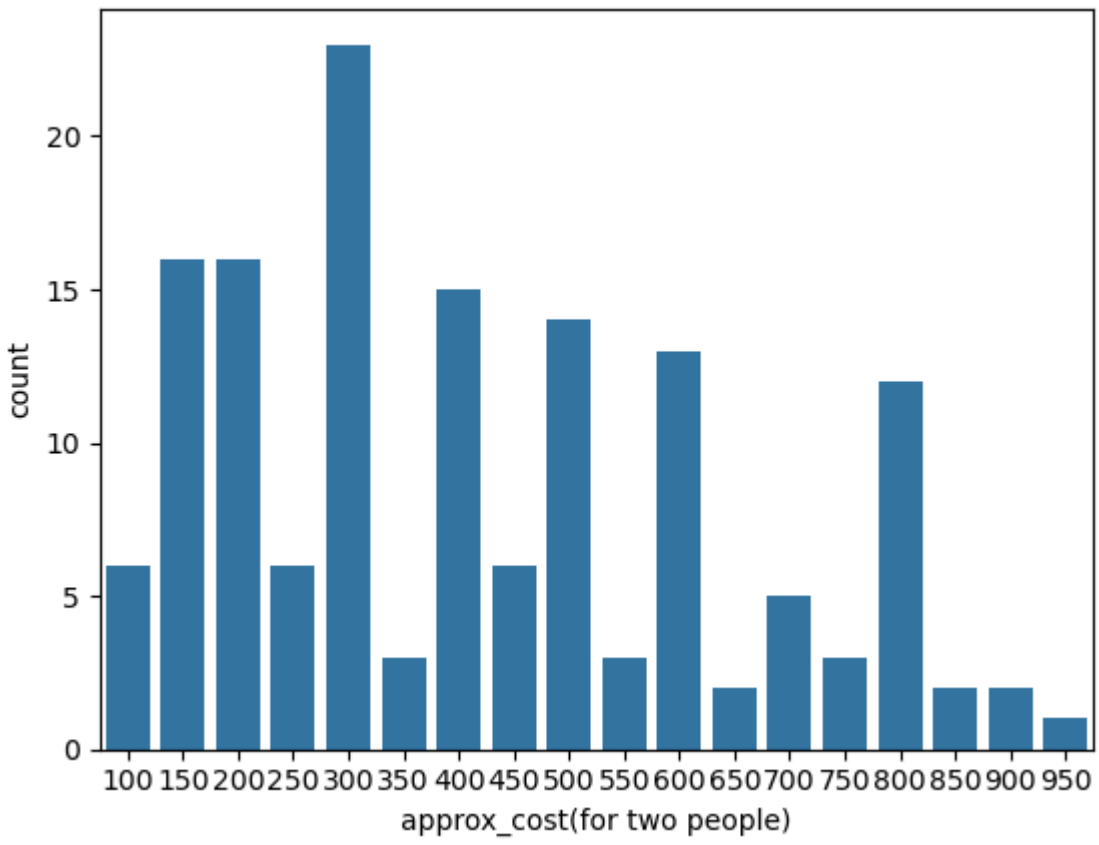
```
rating_counts = dataframe['rate'].value_counts().sort_index()

# Plot a bar plot
sns.barplot(x=rating_counts.index, y=rating_counts.values, palette='viridis')
plt.title("Ratings Distribution")
plt.xlabel("Rate")
plt.ylabel("Frequency")
plt.show()
```

```
C:\Users\Asus\AppData\Local\Temp\ipykernel_680\3015933992.py:4: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v
0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effe
ct.

  sns.barplot(x=rating_counts.index, y=rating_counts.values, palette='viridis')
```



In [118…
```
couple_data=dataframe['approx_cost(for two people)']
sns.countplot(x=couple_data)
```

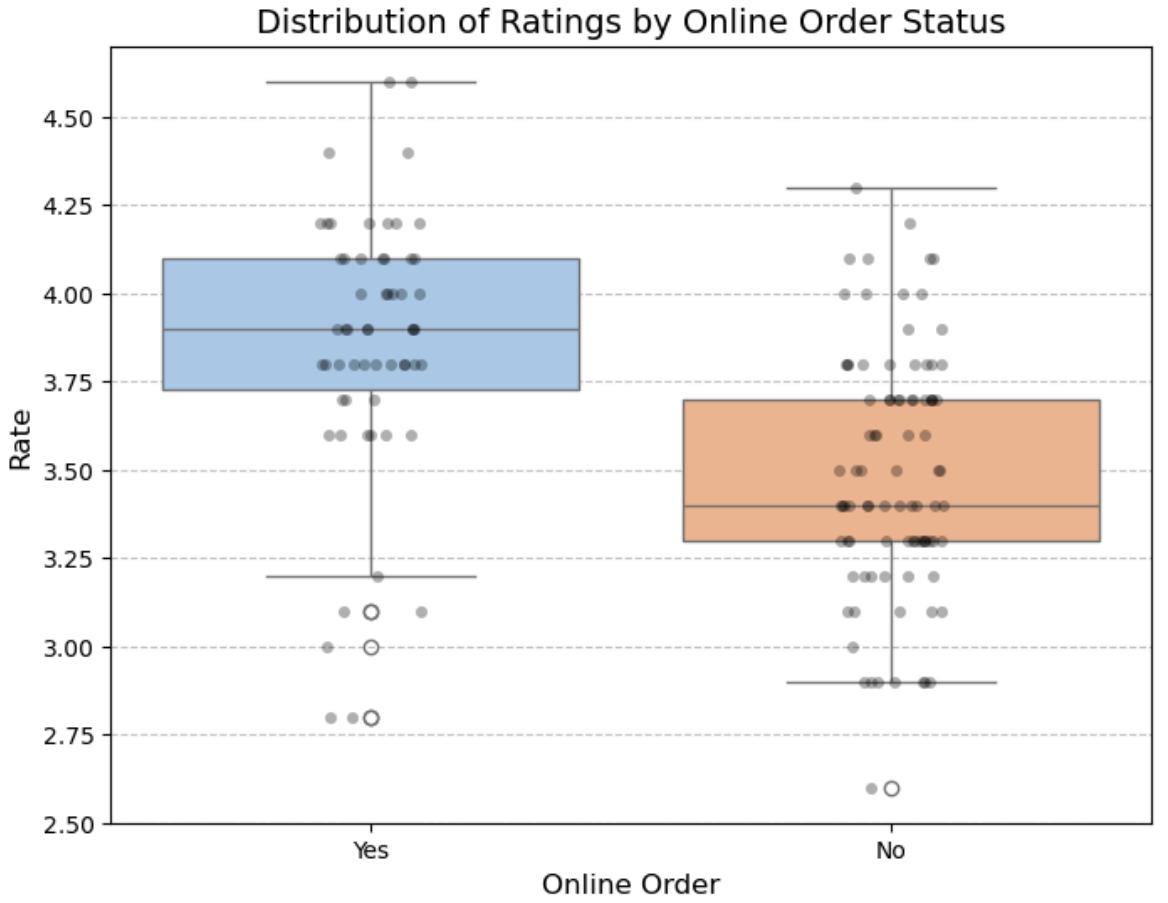
Out[118… <Axes: xlabel='approx_cost(for two people)', ylabel='count'>



In [120…

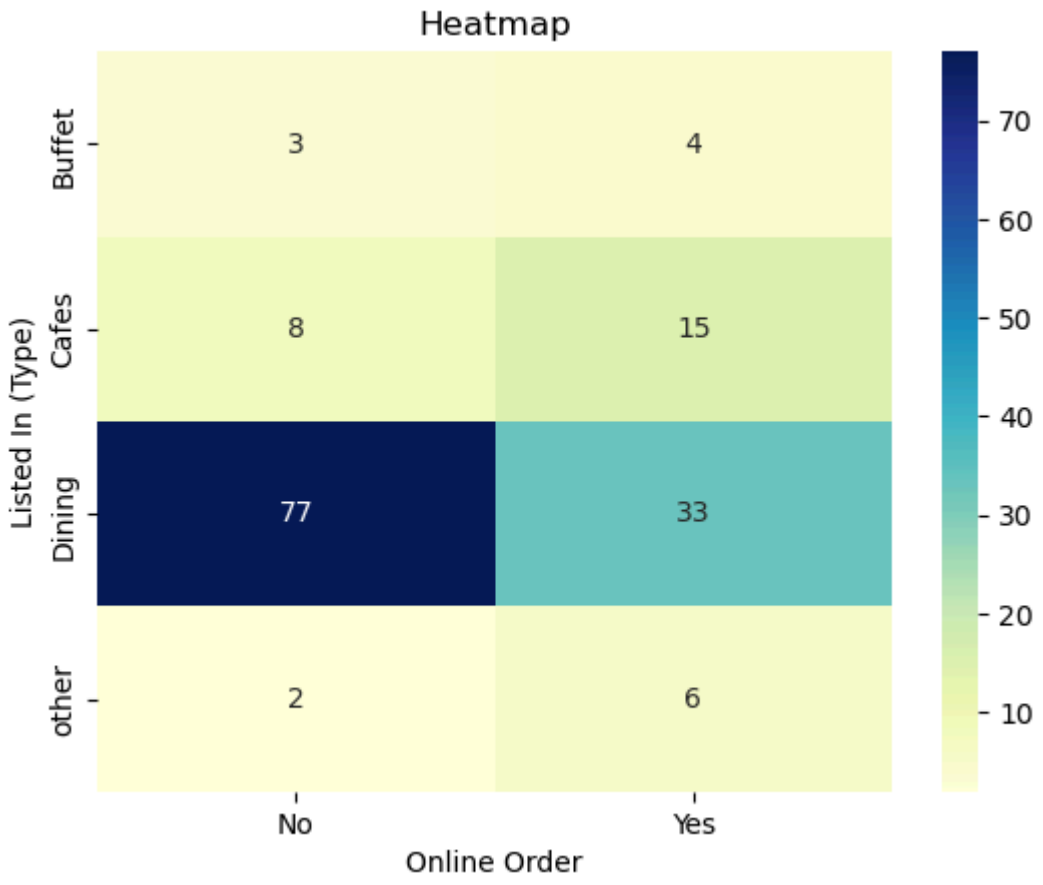
```
# Create a box plot
plt.figure(figsize=(8, 6))  # Increase figure size for better readability
sns.boxplot(x='online_order', y='rate', data=dataframe, palette='pastel')

# Add grid lines for better visualization
plt.grid(True, linestyle='--', alpha=0.7)

# Label and title customization
plt.xlabel("Online Order", fontsize=12)
plt.ylabel("Rate", fontsize=12)
plt.title("Distribution of Ratings by Online Order Status", fontsize=14)

# Optionally add individual data points
sns.stripplot(x='online_order', y='rate', data=dataframe, color='black', alpha=0

plt.show()
```

```
C:\Users\Asus\AppData\Local\Temp\ipykernel_680\2144177454.py:3: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v
0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effe
ct.

  sns.boxplot(x='online_order', y='rate', data=dataframe, palette='pastel')
```



In [122…

```
pivot_table = dataframe.pivot_table(index='listed_in(type)', columns='online_ord
sns.heatmap(pivot_table, annot=True, cmap="YlGnBu", fmt='d')
plt.title("Heatmap")
plt.xlabel("Online Order")
plt.ylabel("Listed In (Type)")
plt.show()
```


Heatmap
Buffet
Cafes
Dining
other
Listed In (Type)
3
4
8
15
77
33
2
6
No
Yes
Online Order
70
60
50
40
30
20
10

In [ ]: