Zomato Data Analysis Project

Using Python

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Zomato Data Analysis Project

Step 1 - Importing Libraries

- pandas are used for data manipulation and analysis.
- NumPy is used for numerical operations.
- matplotlib.pyplot and seabron are used for data visualizations.

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

Step 2 - Create the data frame

```
dataframe = pd.read_csv("Zomato data .csv")
print(dataframe)
```

```
                        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
..                     ...           ...        ...    ...    ...
143       Melting Melodies             No         No  3.3/5      0
144        New Indraprasta             No         No  3.3/5      0
145           Anna Kuteera            Yes         No  4.0/5    771
146                 Darbar             No         No  3.0/5     98
147          Vijayalakshmi            Yes         No  3.9/5     47

     approx_cost(for two people) listed_in(type)
0                            800          Buffet
1                            800          Buffet
2                            800          Buffet
3                            300          Buffet
4                            600          Buffet
..                           ...             ...
143                          100          Dining
144                          150          Dining
145                          450          Dining
146                          800          Dining
147                          200          Dining

[148 rows x 7 columns]
```

```
dataframe
```

```
                      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
..                     ...          ...        ...    ...    ...
143       Melting Melodies           No         No  3.3/5      0
144        New Indraprasta           No         No  3.3/5      0
145           Anna Kuteera          Yes         No  4.0/5    771
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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
..                            ...            ...
143                           100         Dining
144                           150         Dining
145                           450         Dining
146                           800         Dining
147                           200         Dining

[148 rows x 7 columns]
```

Convert the data type of column - rate

Data Cleaning

Convert the data type of column - rate

```
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
4        Grand Village             No         No   3.8    166
```

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

```
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
```

Type of Restaurant

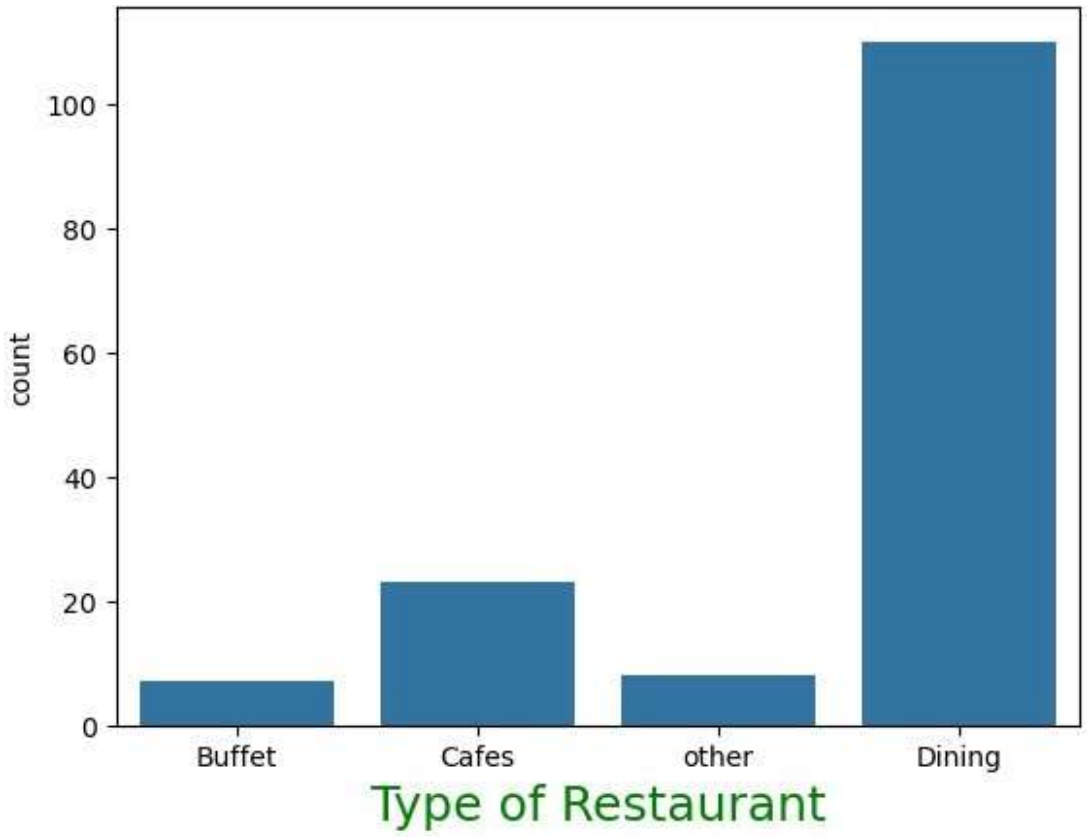
```
dataframe.head()
```

```
                    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   
4          Grand Village           No          No   3.8    166   
```

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

```
sns.countplot(x=dataframe['listed_in(type)'])
plt.xlabel("Type of Restaurant", c='green', size='18')
```

```
Text(0.5, 0, 'Type of Restaurant')
```



Conclusion - Majority of the Resturent falls in Dinning category

```
dataframe.head()
```

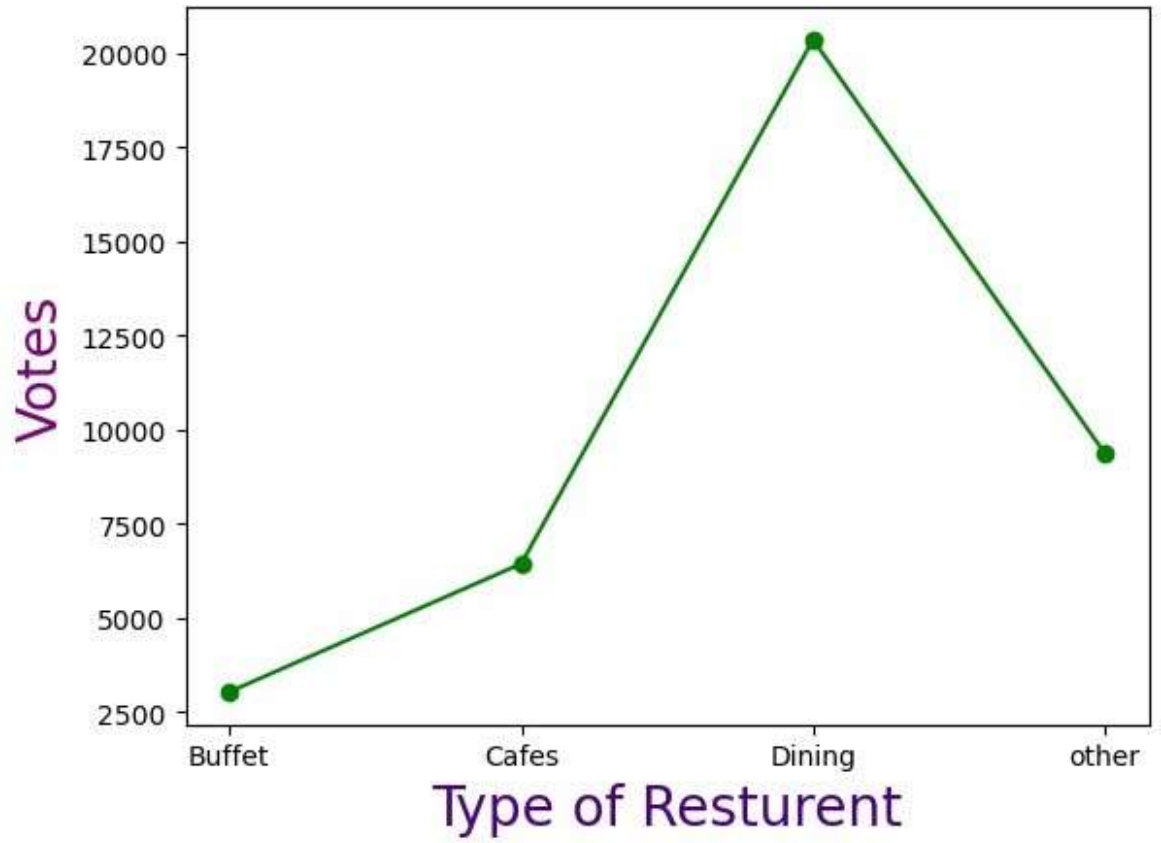
	name	online_order	book_table	rate	votes
0	Jalsa	Yes	Yes	4.1	775
1	Spice Elephant	Yes	No	4.1	787
2	San Churro Cafe	Yes	No	3.8	918
3	Addhuri Udupi Bhojana	No	No	3.7	88
4	Grand Village	No	No	3.8	166

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

```
grouped_data = dataframe.groupby('listed_in(type)')['votes'].sum()
result = pd.DataFrame({'votes': grouped_data})
plt.plot(result, c="green", marker="o")
```

```
plt.xlabel("Type of Resturent", c="indigo", size="20")
plt.ylabel("Votes", c="purple", size="20")
```

```
Text(0, 0.5, 'Votes')
```



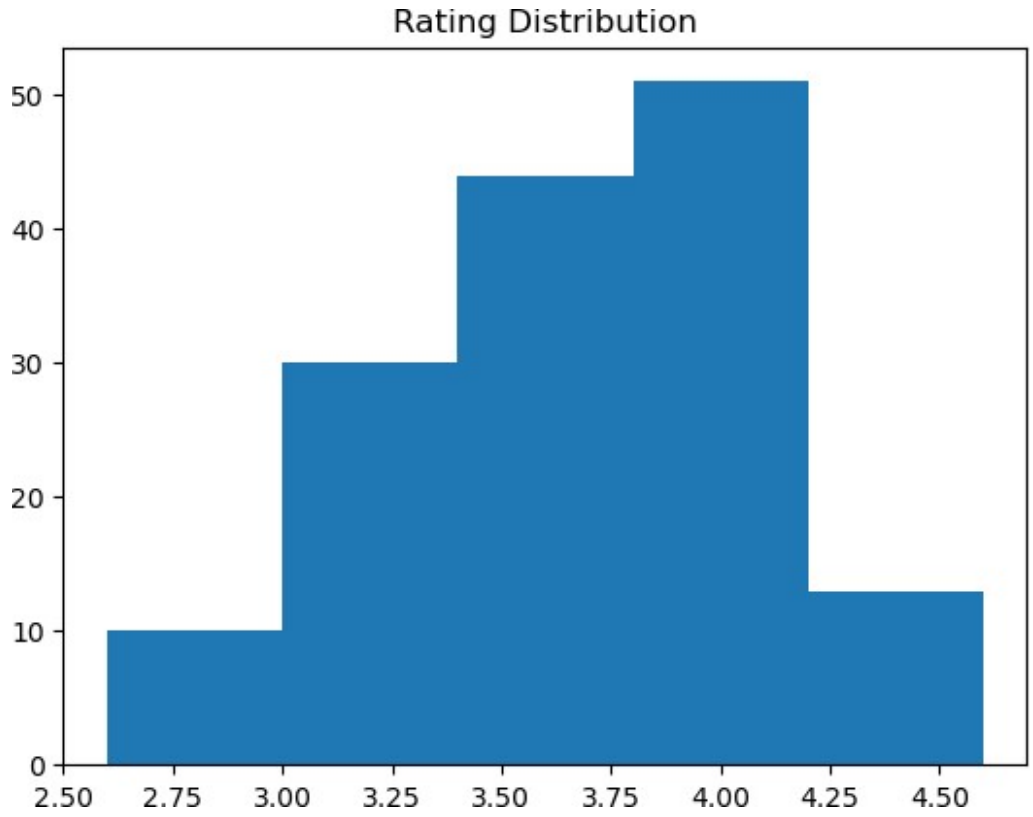
Conclusion - Dinning Resturent has received maximum votes

```
dataframe.head()
```

	name	online_order	book_table	rate	votes	approx_cost(for two people)	listed_in(type)
0	Jalsa	Yes	Yes	4.1	775	800	Buffet
1	Spice Elephant	Yes	No	4.1	787	800	Buffet
2	San Churro Cafe	Yes	No	3.8	918	800	Buffet
3	Addhuri Udupi Bhojana	No	No	3.7	88		
4	Grand Village	No	No	3.8	166		

```
3                              300           Buffet
4                              600           Buffet
```

```
plt.hist(dataframe['rate'],bins =5)
plt.title("Rating Distribution")
plt.show()
```



Conclusion - The Majority Resturents Received Ratings from 3.5 to 4

Avarage orders spending by Couples

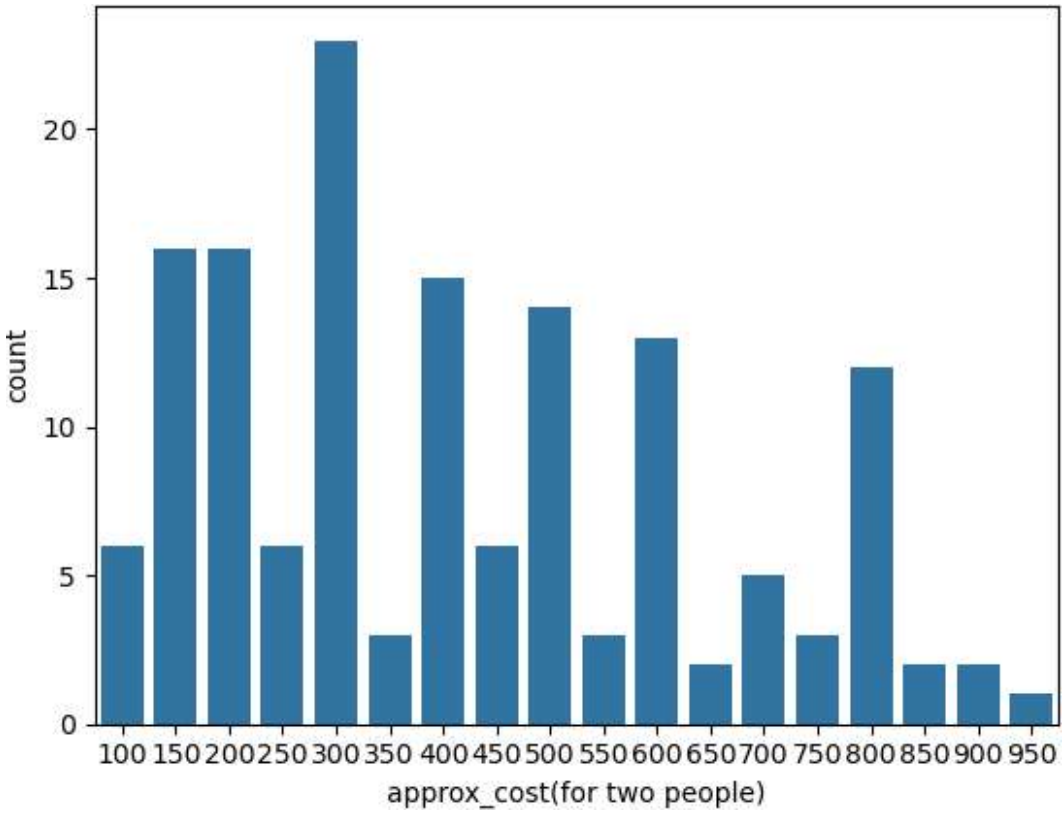
```
dataframe.head()
```

```
                    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
4          Grand Village           No          No   3.8    166
```

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

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

```
<Axes: xlabel='approx_cost(for two people)', ylabel='count'>
```



Conclusion - The majority of couples prefer restaurant with an approximate cost of 300 rupees

Which mode received the maximum rantings

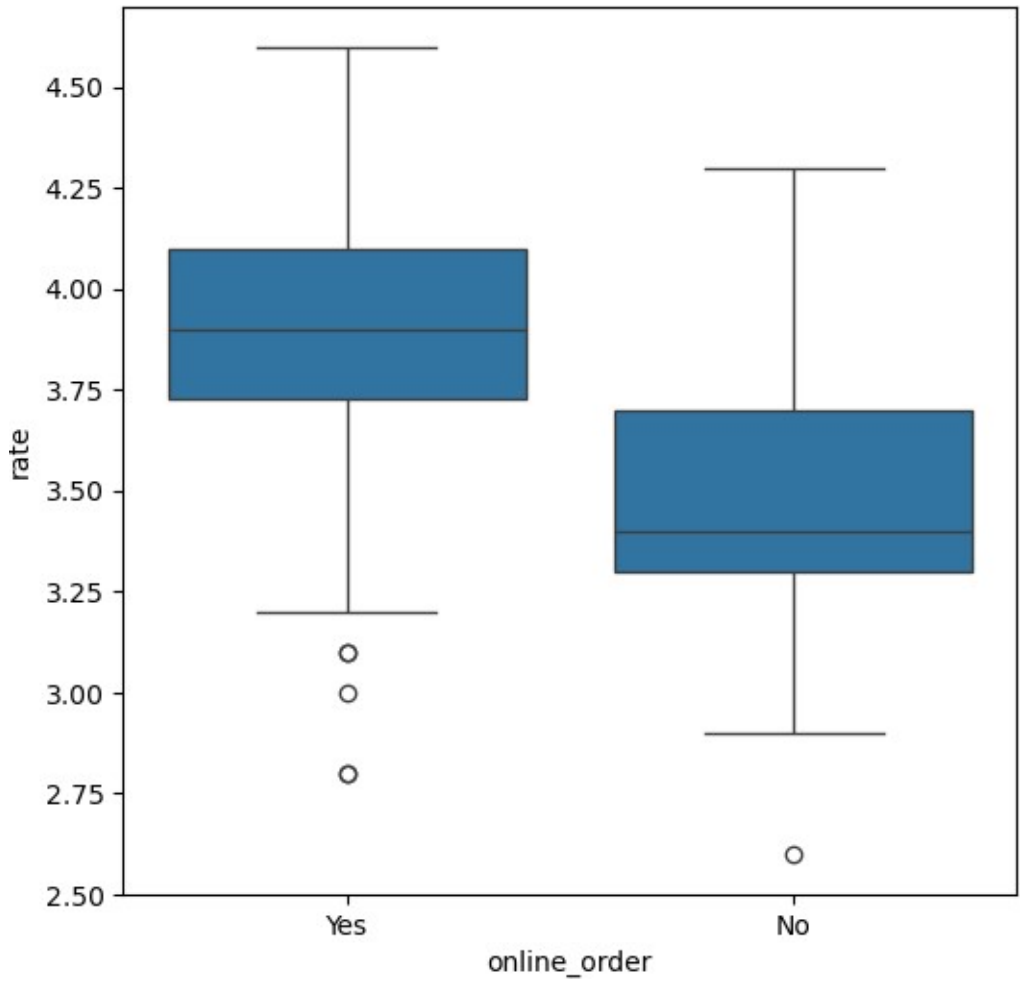
```
dataframe.head()
```

```
                      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
4            Grand Village           No          No   3.8    166

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

```
plt.figure(figsize = (6,6))
sns.boxplot(x='online_order', y ='rate', data = dataframe)
```

```
<Axes: xlabel='online_order', ylabel='rate'>
```



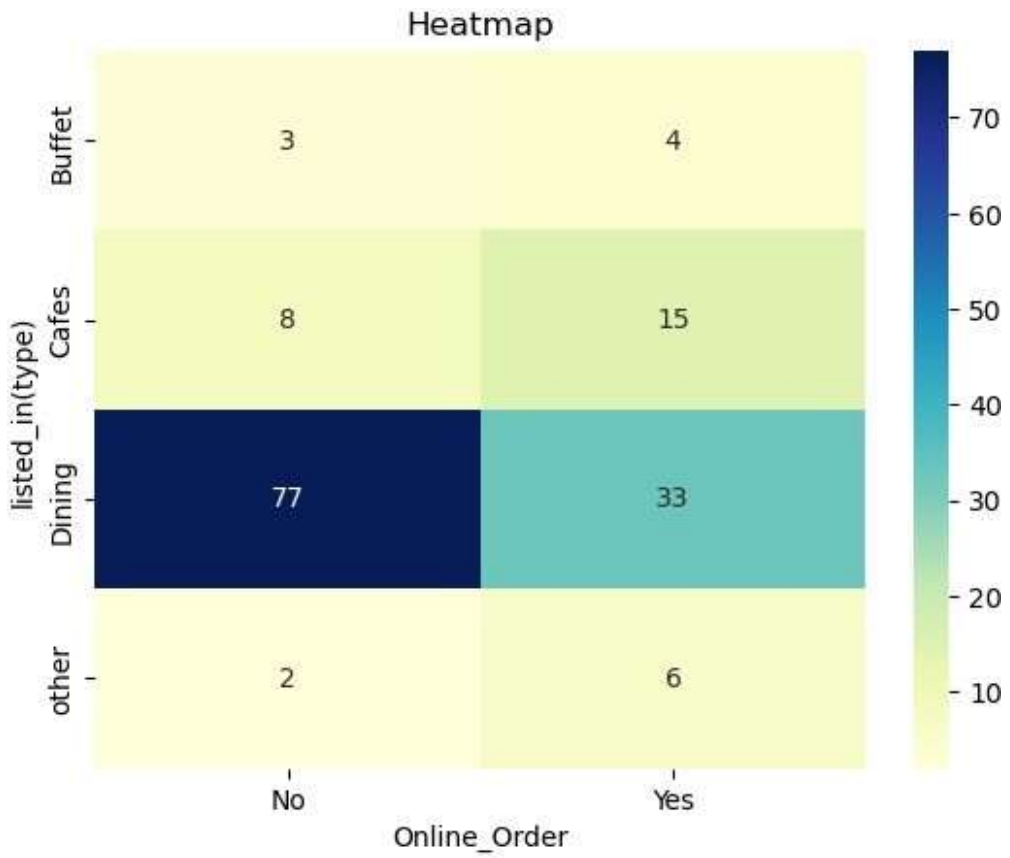
Conclusion - Offline orders received lower rating in comparison to online order

```
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
4           Grand Village           No         No   3.8    166

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

```
pivot_table = dataframe.pivot_table(index='listed_in(type)',
columns='online_order', aggfunc='size', fill_value=0)
sns.heatmap(pivot_table, annot=True, cmap="YlGnBu", fmt='d')
plt.title("Heatmap")
plt.xlabel('Online_Order')
plt.ylabel('listed_in(type)')
plt.show()
```



Conclusion - We can see that offline people are more prefer to go to Dining Types Restaurants