Zomato Data Analysis Project

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

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

```
def handlerate(value):
    value = str(value).split('/')
    value = value[0]
    return float(value)
dataframe['rate']=dataframe['rate'].apply(handlerate)
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
```

```
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
```

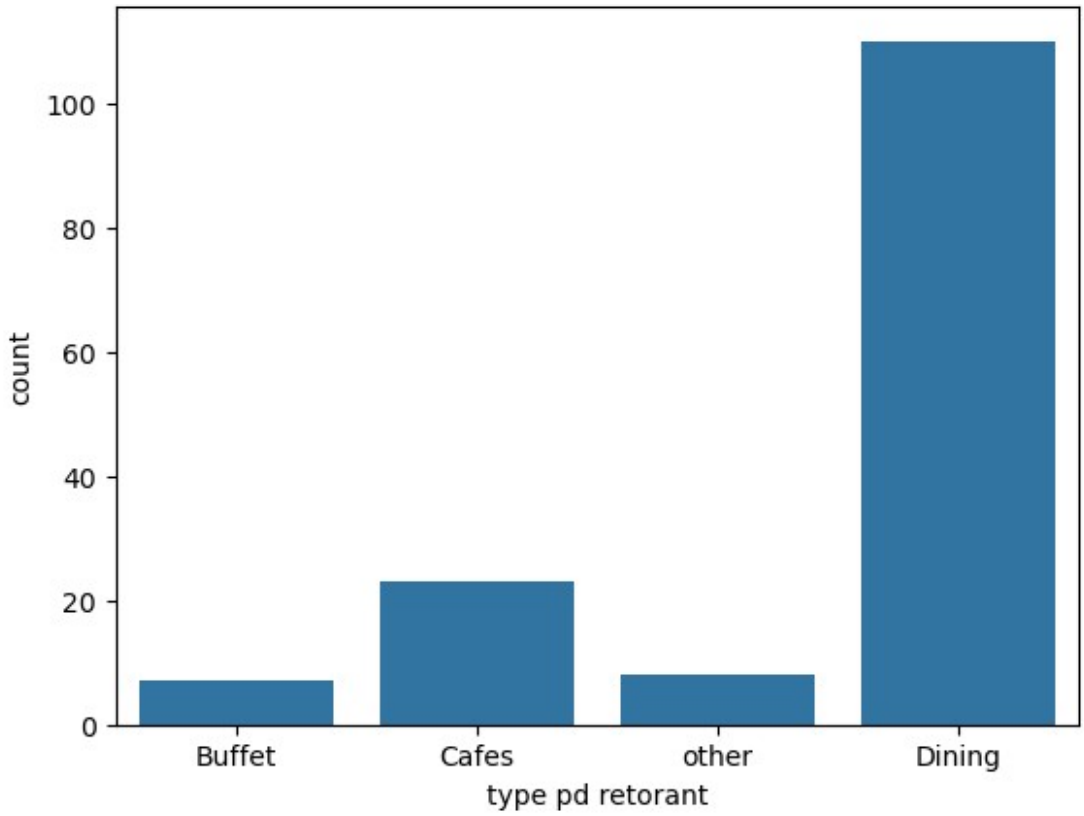
Type of restorant

```
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	300	Buffet
4	Grand Village	No	No	3.8	166	600	Buffet

```
sns.countplot(x=dataframe['listed_in(type)'] )
plt.xlabel("type pd retorant")
```

```
Text(0.5, 0, 'type pd retorant')
```



Conclusion - majority of the rastorants falls in dinning category

```
dataframe.head()
```

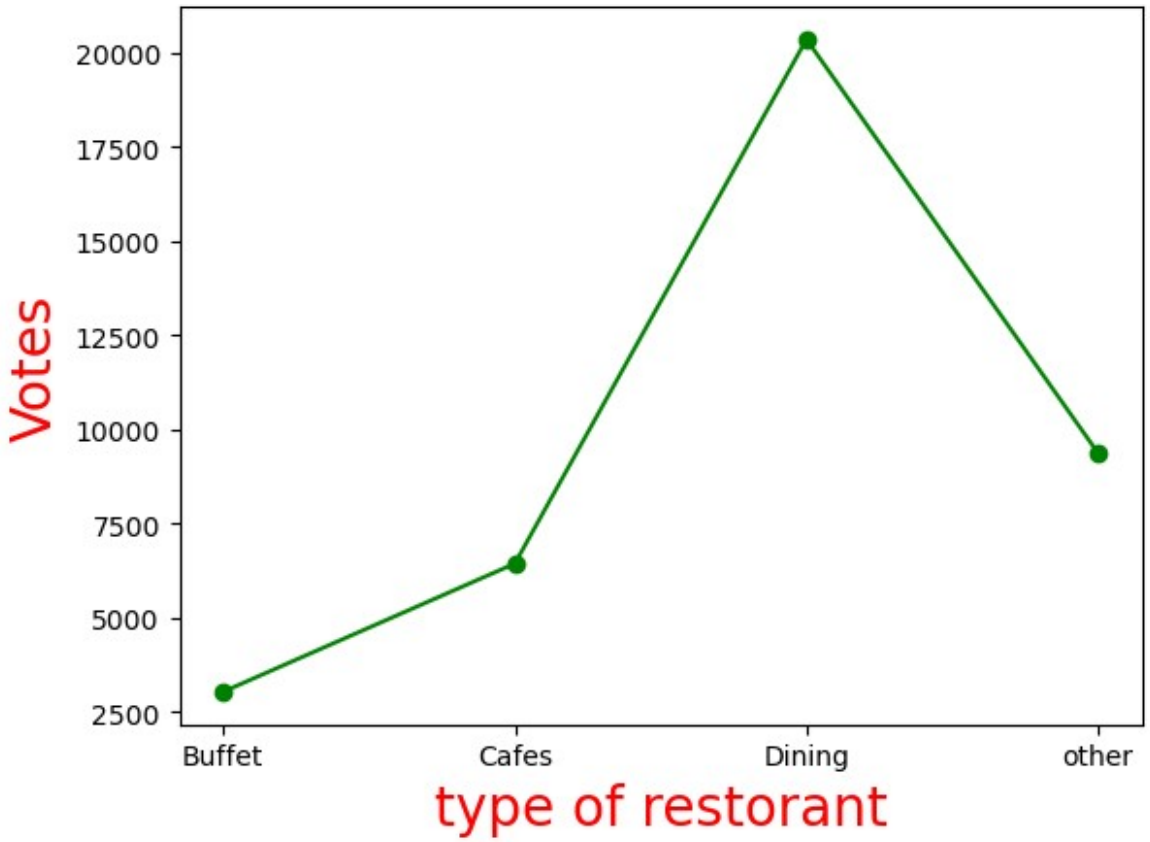
	name	online_order	book_table	rate	votes	\
0	Jalsa	Yes	Yes	4.1	775	
1	Spice Elephant	Yes	No	4.1	787	
2	San Churro Cafe	Yes	No	3.8	918	
3	Addhuri Udupi Bhojana	No	No	3.7	88	
4	Grand Village	No	No	3.8	166	

	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 restorant",size =20 , c= "red")
plt.ylabel("Votes",c ="red",size =20)

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

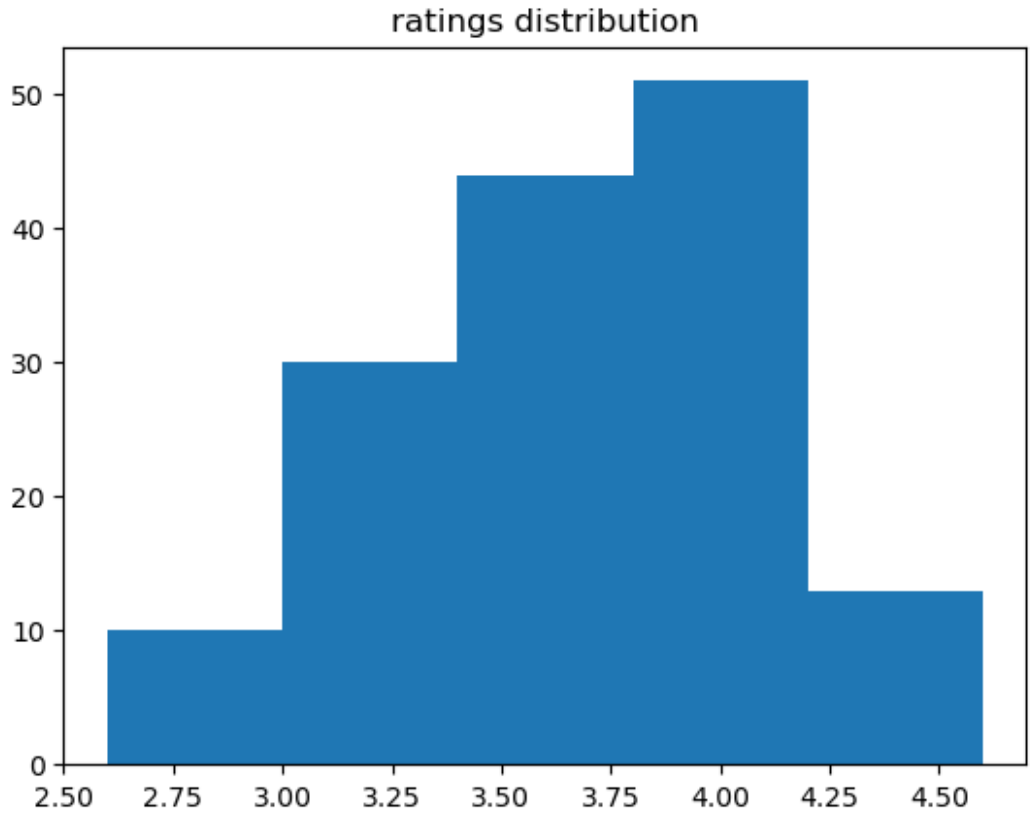


Conclusion - Dining restorants recieved maximum votes

```
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	300	Buffet
4	Grand Village	No	No	3.8	166	600	Buffet

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



conclusion - the majority restorant received rating from 3.5 to 4

Average order spending by couples

```
dataframe.head()
```

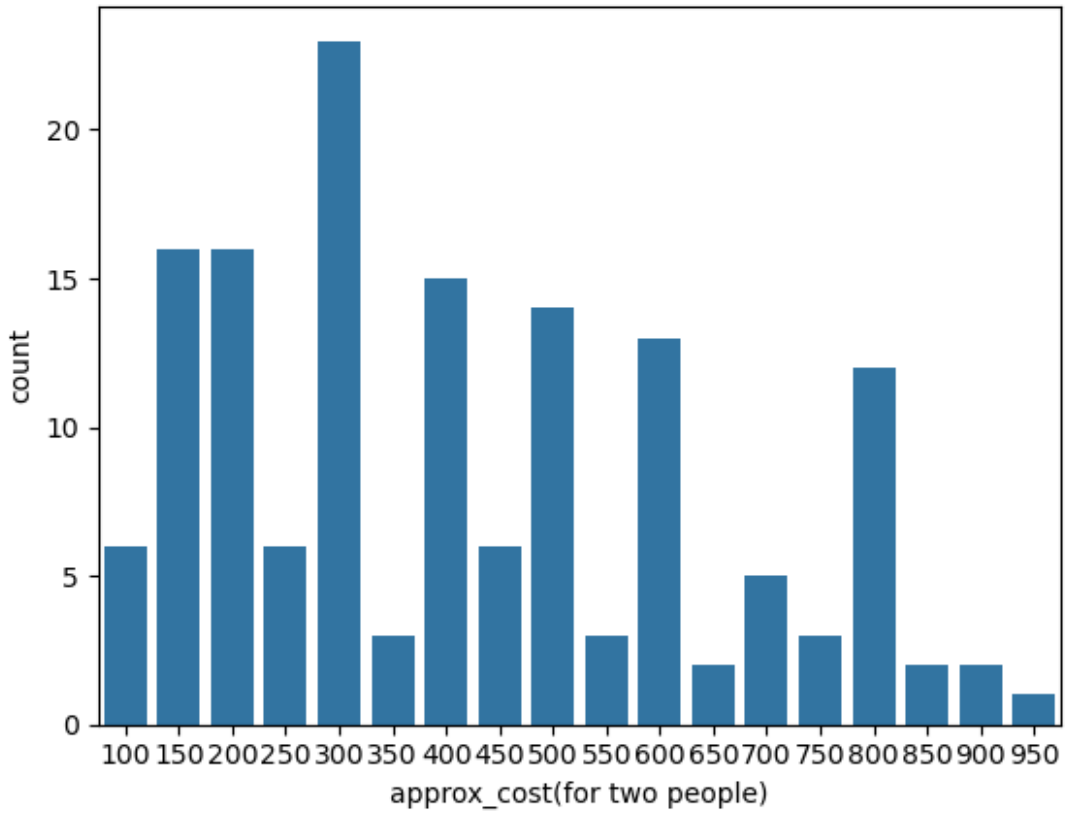
	name	online_order	book_table	rate	votes	\
0	Jalsa	Yes	Yes	4.1	775	
1	Spice Elephant	Yes	No	4.1	787	
2	San Churro Cafe	Yes	No	3.8	918	
3	Addhuri Udupi Bhojana	No	No	3.7	88	
4	Grand Village	No	No	3.8	166	

	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 restorants with an aproximate cost of 300 rupees.

which mode receives maximum ratings

```
dataframe.head()
```

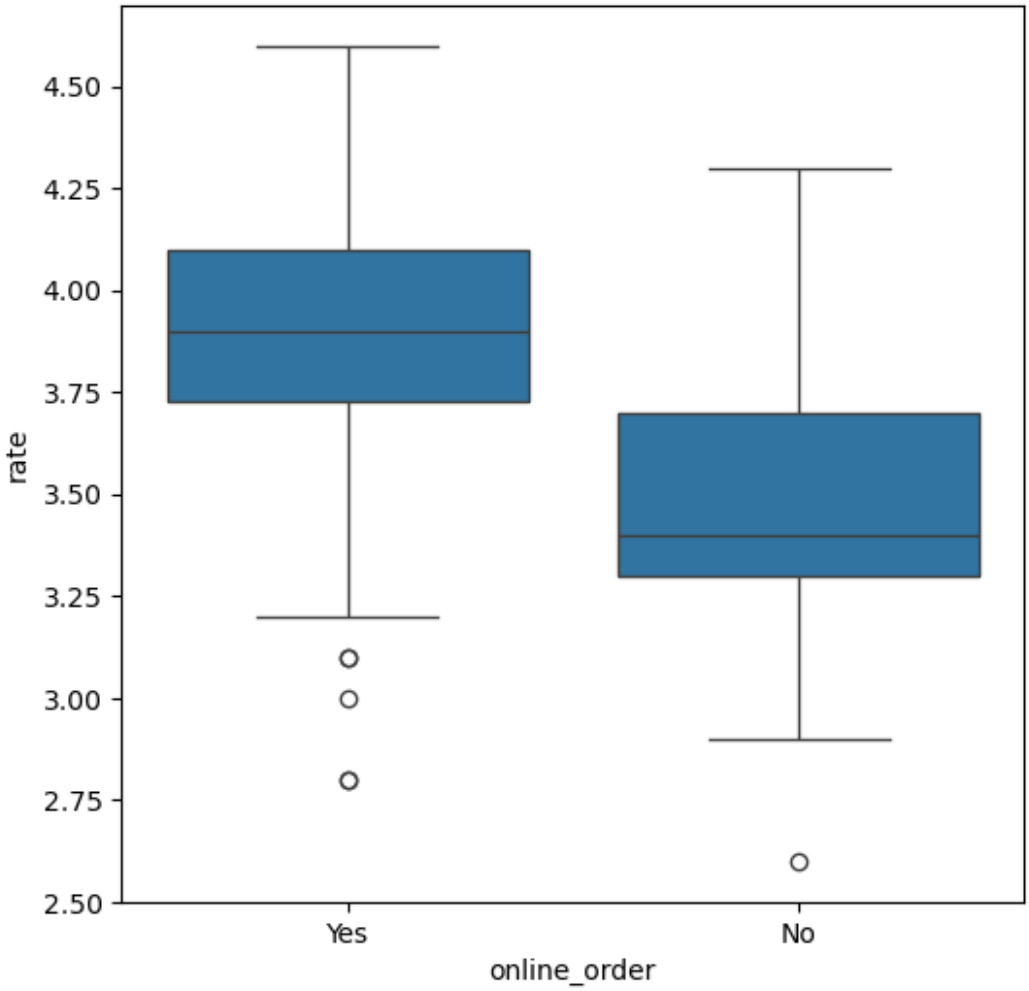
```
                    name online_order book_table  rate  votes  \
0                  Jalsa          Yes        Yes   4.1    775
1         Spice Elephant          Yes         No   4.1    787
2        San Churro Cafe          Yes         No   3.8    918
```

```
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
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2        San Churro Cafe          Yes         No   3.8    918
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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
```
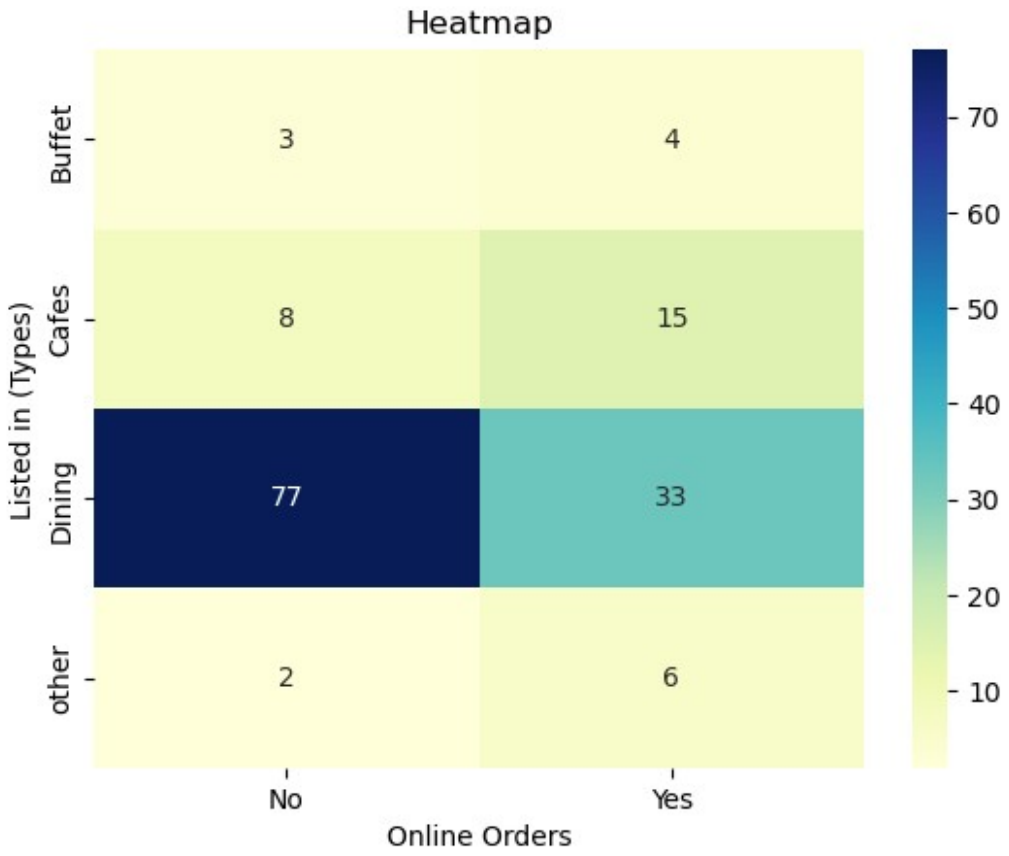

```
pivot_table =
dataframe.pivot_table(index='listed_in(type)',columns='online_order',a
ggfunc='size',fill_value=0)
sns.heatmap(pivot_table, annot=True, cmap ="YlGnBu", fmt = 'd')
plt.title("Heatmap")
plt.xlabel("Online Orders")
plt.ylabel("Listed in (Types)")
plt.show()
```



Conclusion - Dining restorants primarily accept offline ordeds,whereas cafes promarily receive online orders. This suggest that client prefers orders in person at restorants, but prefer online orders at cafes.