Zomato Data Analysis by Python

Project By Ayush Kumar

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

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

```
dataframe.iloc[10:101, 0:4]
```

	name	online_order	book_table	rate
10	Village Café	Yes	No	4.1/5
11	Cafe Shuffle	Yes	Yes	4.2/5
12	The Coffee Shack	Yes	Yes	4.2/5
13	Caf-Eleven	No	No	4.0/5
14	San Churro Cafe	Yes	No	3.8/5
...	...	...	...	...
96	Kaggis	No	No	3.8/5
97	Ayda Persian Kitchen	No	No	3.7/5
98	Chatar Patar	No	No	3.7/5
99	Polar Bear	Yes	No	3.8/5
100	Kidambi's Kitchen	No	No	3.5/5

91 rows × 4 columns

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Create the dataframe

```
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	approx_cost(for two people)	listed_in(type)
0	Jalsa	Yes	Yes	4.1/5	775	800	Buffet
1	Spice Elephant	Yes	No	4.1/5	787	800	Buffet
2	San Churro Cafe	Yes	No	3.8/5	918	800	Buffet
3	Addhuri Udupi Bhojana	No	No	3.7/5	88	300	Buffet
4	Grand Village	No	No	3.8/5	166	600	Buffet
...	...	...	...	...	...	...	...
143	Melting Melodies	No	No	3.3/5	0	100	Dining
144	New Indraprasta	No	No	3.3/5	0	150	Dining
145	Anna Kuteera	Yes	No	4.0/5	771	450	Dining
146	Darbar	No	No	3.0/5	98	800	Dining
147	Vijayalakshmi	Yes	No	3.9/5	47	200	Dining

148 rows × 7 columns

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

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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)
```

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

```
# This is formatted as code
```

```
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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

```
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
```

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Type of Resturant

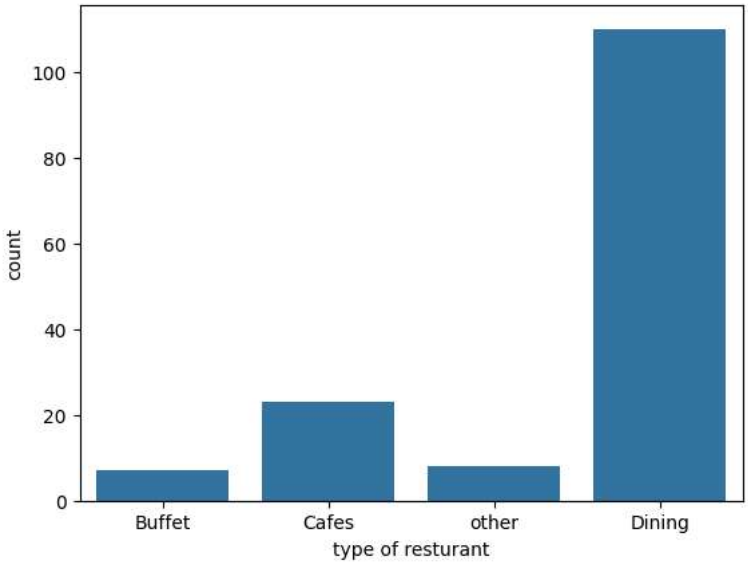
```
dataframe.head()
```

	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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

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

```
Text(0.5, 0, 'type of resturant')
```



Start coding or generate with AI.

Conclusion: Majority of the resturant falls in dinning Category.

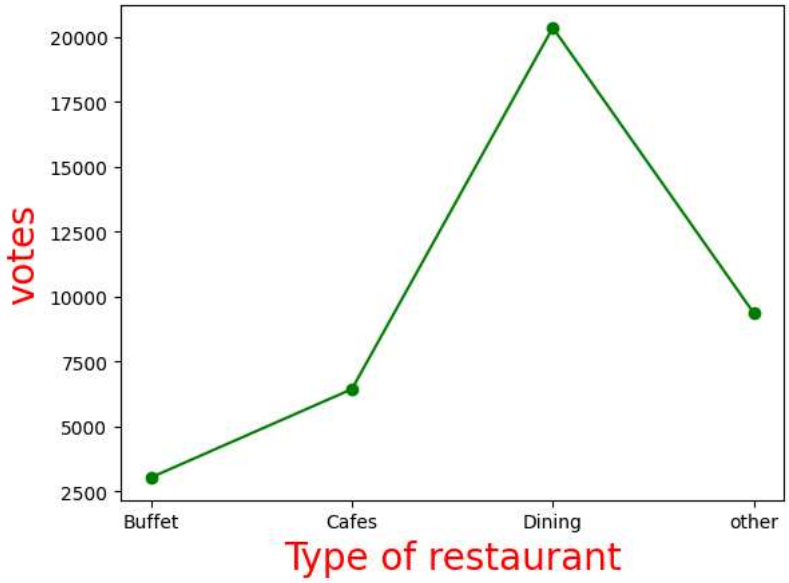
```
dataframe.head()
```

	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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

```
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 restaurant", c="red", size=20)
plt.ylabel("votes", c="red", size=20)
```

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



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Conclusion: Dinning restaurants has recieved maximum votes.

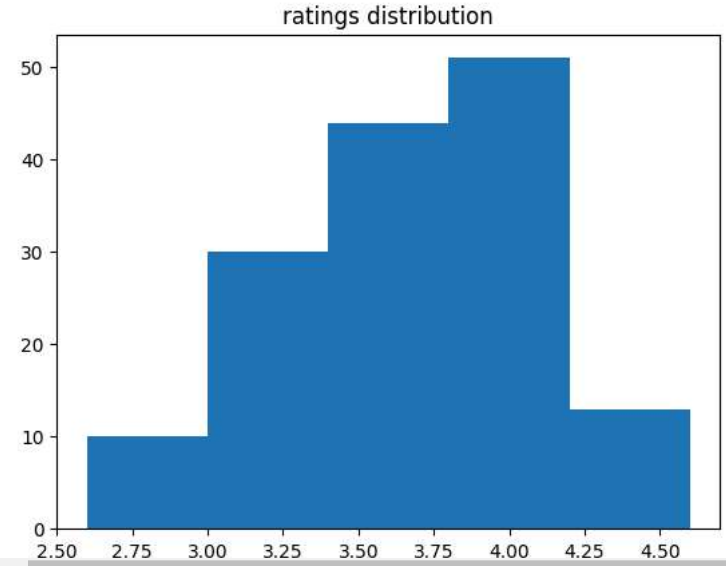
```
dataframe.head()
```

	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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

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

```
Text(0.5, 1.0, 'ratings distribution')
```



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Conclusion: The majority restaurant recieved ratings from 3.6 to 6.

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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

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Average Order Spending by couples

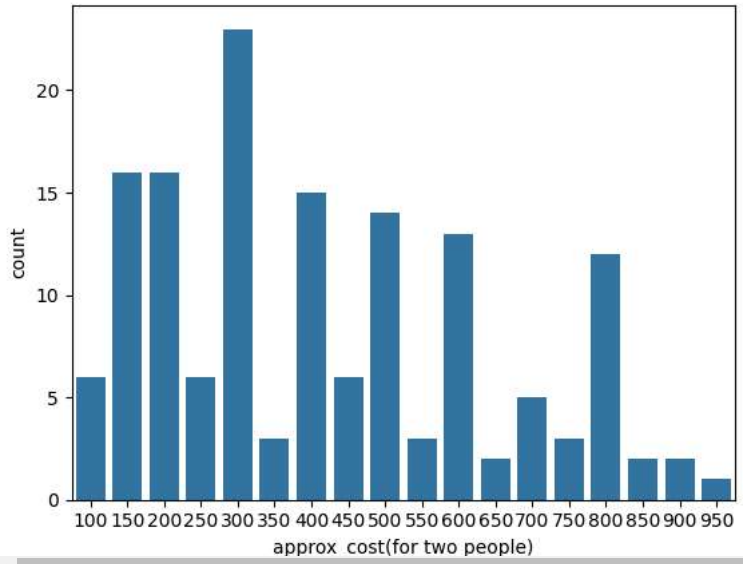
```
dataframe.head()
```

	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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

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

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



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Conclusion: The majority of couples prefer restaurants with an approximate cost of 300 rupees.

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Which mode recieves maximim rating

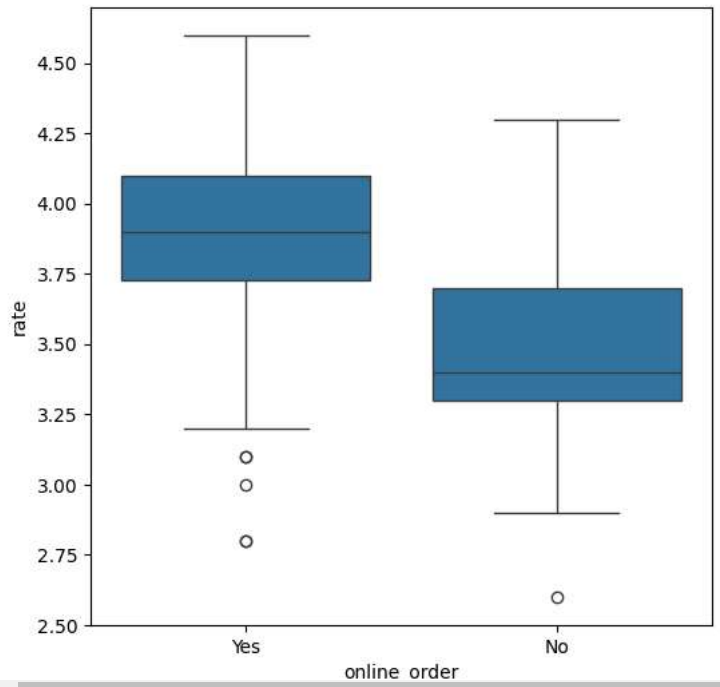
```
dataframe.head()
```

	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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

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

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



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Conclusion: Offline order recieved lower rating in comparision to online order.

```
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

Next steps: Generate code with dataframe | View recommended plots | New interactive sheet

```
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()
```

+ Code + Text

Conclusion: Dining restaurants primarily accept offline orders, whereas cafes primarily receive online orders. This suggests that clients prefer to place orders in person at restaurants, but prefer online ordering at cafes.

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