

```
In [1]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
```

```
In [2]: df = pd.read_excel("data.xlsx")
```

```
In [3]: df.head(2)
```

Out[3]:

	Restaurant ID	Restaurant Name	Country Code	City	Address	Locality	Locality Verbose	Longitude	Latitude	Cuisines	Average Cost for two
0	7402935	Skye	94	Jakarta	Menara BCA, Lantai 56, Jl. MH. Thamrin, Thamrin...	Grand Indonesia Mall, Thamrin	Grand Indonesia Mall, Thamrin, Jakarta	106.821999	-6.196778	Italian, Continental	₹
1	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Hotel Shangri-La, Jl. Jend. Sudirman	Hotel Shangri-La, Sudirman	Hotel Shangri-La, Sudirman, Jakarta	106.818961	-6.203292	Asian, Indonesian, Western	₹

```
In [4]: df.shape
```

Out[4]: (9551, 19)

```
In [5]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 9551 entries, 0 to 9550
Data columns (total 19 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Restaurant ID                        9551 non-null   int64
1   Restaurant Name                      9550 non-null   object
2   Country Code                        9551 non-null   int64
3   City                                9551 non-null   object
4   Address                             9551 non-null   object
5   Locality                            9551 non-null   object
6   Locality Verbose                    9551 non-null   object
7   Longitude                           9551 non-null   float64
8   Latitude                           9551 non-null   float64
9   Cuisines                            9542 non-null   object
10  Average Cost for two                 9551 non-null   int64
11  Currency                            9551 non-null   object
12  Has Table booking                   9551 non-null   object
13  Has Online delivery                 9551 non-null   object
14  Price range                         9551 non-null   int64
15  Aggregate rating                    9551 non-null   float64
16  Rating color                        9551 non-null   object
17  Rating text                         9551 non-null   object
18  Votes                              9551 non-null   int64
dtypes: float64(3), int64(5), object(11)
memory usage: 1.4+ MB
```

```
In [6]: df.isnull().sum().sum()
```

Out[6]: 10

```
In [7]: df.isnull().sum()
```

```
Out[7]: Restaurant ID          0
        Restaurant Name       1
        Country Code         0
        City                 0
        Address              0
        Locality             0
        Locality Verbose     0
        Longitude            0
        Latitude             0
        Cuisines              9
        Average Cost for two  0
        Currency             0
        Has Table booking    0
        Has Online delivery  0
        Price range          0
        Aggregate rating     0
        Rating color         0
        Rating text          0
        Votes                0
        dtype: int64
```

```
In [8]: df1 = df.copy()
```

```
In [9]: df1.dropna(inplace=True)
```

```
In [10]: df1.isnull().sum().sum()
```

```
Out[10]: 0
```

```
In [11]: df1.isnull().sum()
```

```
Out[11]: Restaurant ID          0
        Restaurant Name       0
        Country Code         0
        City                 0
        Address              0
        Locality             0
        Locality Verbose     0
        Longitude            0
        Latitude             0
        Cuisines              0
        Average Cost for two  0
        Currency             0
        Has Table booking    0
        Has Online delivery  0
        Price range          0
        Aggregate rating     0
        Rating color         0
        Rating text          0
        Votes                0
        dtype: int64
```

```
In [13]: df1.shape[0]
```

```
Out[13]: 9541
```

```
In [15]: df1.duplicated().sum()
```

```
Out[15]: 0
```

```
In [16]: df2 = df1.copy()
```

Out[18]:

	Restaurant ID	Restaurant Name	Country Code	City	Address	Locality	Locality Verbose	Longitude	Latitude	Cuisines	Average Cost for two
0	7402935	Skye	94	Jakarta	Menara BCA, Lantai 56, Jl. MH. Thamrin, Thamrin...	Grand Indonesia Mall, Thamrin	Grand Indonesia Mall, Thamrin, Jakarta	106.821999	-6.196778	Italian, Continental	800000

In [20]:

```
df2.drop(columns=['Address', 'Locality', 'Locality Verbose', 'Longitude', 'Latitude', 'Currency'])
```

In [22]:

```
df2.shape[1]
```

Out[22]: 13

In [25]:

```
df2.shape
```

Out[25]: (9541, 13)

In [23]:

```
df2.head(1)
```

Out[23]:

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating color	Rating text
0	7402935	Skye	94	Jakarta	Italian, Continental	800000	No	No	3	4.1	Green	Very Good

In [78]:

```
df3 = df2.copy()
```

In [79]:

```
df3[['C1', 'C2', 'C3', 'C4', 'C5', 'C6', 'C7', 'C8']] = df3['Cuisines'].str.split(', ', expand=True)
```

In [80]:

```
df3.head(1)
```

Out[80]:

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	...	Rating text
0	7402935	Skye	94	Jakarta	Italian, Continental	800000	No	No	3	4.1	...	Very Good

1 rows × 21 columns

In [81]:

```
df3.shape
```

Out[81]: (9541, 21)

In [90]:

```
df4 = df3.copy()
```

In [91]:

```
df4.columns
```

Out[91]: Index(['Restaurant ID', 'Restaurant Name', 'Country Code', 'City', 'Cuisines', 'Average Cost for two', 'Has Table booking', 'Has Online delivery', 'Price range', 'Aggregate rating', 'Rating color', 'Rating text', 'Votes', 'C1', 'C2', 'C3', 'C4', 'C5', 'C6', 'C7', 'C8'], dtype='object')

```
'Average Cost for two', 'Has Table booking', 'Has Online delivery',  
'Price range', 'Aggregate rating', 'Rating color', 'Rating text',  
'Votes'], inplace=True)
```

```
In [123... df5 = df4.stack().reset_index()
```

```
In [124... df5
```

Out[124...

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating color
0	7402935	Skye	94	Jakarta	Italian, Continental	800000	No	No	3	4.1	Green
1	7402935	Skye	94	Jakarta	Italian, Continental	800000	No	No	3	4.1	Green
2	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian, Indonesian, Western	800000	No	No	3	4.6	Dark Green
3	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian, Indonesian, Western	800000	No	No	3	4.6	Dark Green
4	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian, Indonesian, Western	800000	No	No	3	4.6	Dark Green
...	...	...	...	...	...	...	...	...	...	...	...
19701	18312106	UrbanCrave	1	Kanpur	Cafe, Continental, Desserts, Ice Cream, Italia...	0	No	No	1	3.9	Yellow
19702	18312106	UrbanCrave	1	Kanpur	Cafe, Continental, Desserts, Ice Cream, Italia...	0	No	No	1	3.9	Yellow
19703	3900245	Deena Chat Bhandar	1	Varanasi	Street Food	0	No	No	1	3.8	Yellow
19704	18246202	VNS Live Studio	1	Varanasi	Chinese, North Indian	0	No	No	1	3.5	Yellow
19705	18246202	VNS Live Studio	1	Varanasi	Chinese, North Indian	0	No	No	1	3.5	Yellow

19706 rows × 15 columns

```
In [125... df5.rename(columns={'level_13': 'Code', 0: 'cuisines'}, inplace=True)
```

```
In [126... df5
```

Out[126...

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating color
0	7402935	Skye	94	Jakarta	Italian, Continental	800000	No	No	3	4.1	Green
1	7402935	Skye	94	Jakarta	Italian, Continental	800000	No	No	3	4.1	Green

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating	Votes
2	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian, Indonesian, Western	800000	No	No	3	4.6	Dark Green	1498
3	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian, Indonesian, Western	800000	No	No	3	4.6	Dark Green	1498
4	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian, Indonesian, Western	800000	No	No	3	4.6	Dark Green	1498
...	...	...	...	...	...	...	...	...	...	...	...	...
19701	18312106	UrbanCrave	1	Kanpur	Cafe, Continental, Desserts, Ice Cream, Italia...	0	No	No	1	3.9	Yellow	1498
19702	18312106	UrbanCrave	1	Kanpur	Cafe, Continental, Desserts, Ice Cream, Italia...	0	No	No	1	3.9	Yellow	1498
19703	3900245	Deena Chat Bhandar	1	Varanasi	Street Food	0	No	No	1	3.8	Yellow	1498
19704	18246202	VNS Live Studio	1	Varanasi	Chinese, North Indian	0	No	No	1	3.5	Yellow	1498
19705	18246202	VNS Live Studio	1	Varanasi	Chinese, North Indian	0	No	No	1	3.5	Yellow	1498

19706 rows × 15 columns

In [180...

```
df6 = df5.copy()
```

In [181...

```
df6.drop(columns=['Cuisines', 'Code'], inplace=True)
```

In [182...

```
df6.head(1)
```

Out[182...

	Restaurant ID	Restaurant Name	Country Code	City	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating color	Rating text	Votes
0	7402935	Skye	94	Jakarta	800000	No	No	3	4.1	Green	Very Good	1498

In [183...

```
df6.shape
```

Out[183... (19706, 13)

In [184...

```
df6.duplicated().sum()
```

Out[184... 5

In [185...

```
df6.drop_duplicates(inplace=True)
```

```
df6.duplicated().sum()
```

Out[186... 0

```
df6.insert(loc=4, column='Cuisines', value=df6['cuisines'])
```

```
df6.drop(columns='cuisines', inplace=True)
```

```
df6
```

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Ratio
0	7402935	Skye	94	Jakarta	Italian	800000	No	No	3	4.1	Gre
1	7402935	Skye	94	Jakarta	Continental	800000	No	No	3	4.1	Gre
2	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Asian	800000	No	No	3	4.6	Di Gre
3	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Indonesian	800000	No	No	3	4.6	Di Gre
4	7410290	Satoo - Hotel Shangri-La	94	Jakarta	Western	800000	No	No	3	4.6	Di Gre
...	...	...	...	...	...	...	...	...	...	...	...
19701	18312106	UrbanCrave	1	Kanpur	Italian	0	No	No	1	3.9	Yell
19702	18312106	UrbanCrave	1	Kanpur	Beverages	0	No	No	1	3.9	Yell
19703	3900245	Deena Chat Bhandar	1	Varanasi	Street Food	0	No	No	1	3.8	Yell
19704	18246202	VNS Live Studio	1	Varanasi	Chinese	0	No	No	1	3.5	Yell
19705	18246202	VNS Live Studio	1	Varanasi	North Indian	0	No	No	1	3.5	Yell

19701 rows × 13 columns

```
df6.shape
```

(19701, 13)

```
df6.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 19701 entries, 0 to 19705
Data columns (total 13 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Restaurant ID                        19701 non-null  int64
1   Restaurant Name                      19701 non-null  object
2   Country Code                        19701 non-null  int64
3   City                                19701 non-null  object
4   Cuisines                            19701 non-null  object
5   Average Cost for two                 19701 non-null  int64
6   Has Table booking                    19701 non-null  object
7   Has Online delivery                  19701 non-null  object
8   Price range                          19701 non-null  int64
9   Aggregate rating                     19701 non-null  float64
Loading [MathJax]/extensions/Safe.js 10   Ratio                                19701 non-null  object
```

11 Rating text 19701 non-null object  
12 Votes 19701 non-null int64  
dtypes: float64(1), int64(5), object(7)  
memory usage: 2.1+ MB

```
In [192... df6.head(1)
```

Out[192...

	Restaurant ID	Restaurant Name	Country Code	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating color	Rating text
0	7402935	Skye	94	Jakarta	Italian	800000	No	No	3	4.1	Green	Very Good

```
In [264... df7 = df6.copy()
```

```
In [265... df7['Country Code'].replace(to_replace=[1,14,30,37,94,148,162,166,184,189,191,208,214,215, value=['India','Australia','Brazil','Canada','Indonesia','New
```

```
In [266... df7.info()
```

<class 'pandas.core.frame.DataFrame'>  
Int64Index: 19701 entries, 0 to 19705  
Data columns (total 13 columns):  
# Column Non-Null Count Dtype  
---  
0 Restaurant ID 19701 non-null int64  
1 Restaurant Name 19701 non-null object  
2 Country Code 19701 non-null object  
3 City 19701 non-null object  
4 Cuisines 19701 non-null object  
5 Average Cost for two 19701 non-null int64  
6 Has Table booking 19701 non-null object  
7 Has Online delivery 19701 non-null object  
8 Price range 19701 non-null int64  
9 Aggregate rating 19701 non-null float64  
10 Rating color 19701 non-null object  
11 Rating text 19701 non-null object  
12 Votes 19701 non-null int64  
dtypes: float64(1), int64(4), object(8)  
memory usage: 2.1+ MB

```
In [267... df7.rename(columns={'Country Code':'Country'},inplace=True)
```

```
In [268... df7.head()
```

Out[268...

	Restaurant ID	Restaurant Name	Country	City	Cuisines	Average Cost for two	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating color	Rating text
0	7402935	Skye	Indonesia	Jakarta	Italian	800000	No	No	3	4.1	Green	Very Good
1	7402935	Skye	Indonesia	Jakarta	Continental	800000	No	No	3	4.1	Green	Very Good
2	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Asian	800000	No	No	3	4.6	Dark Green	Excellent
3	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Indonesian	800000	No	No	3	4.6	Dark Green	Excellent
4	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Western	800000	No	No	3	4.6	Dark Green	Excellent

```
In [269... df7.rename(columns={'Average Cost for two': 'Average_cost_for_two'}, inplace=True)
```

```
In [271... df7.info()

<class 'pandas.core.frame.DataFrame'>
Int64Index: 19701 entries, 0 to 19705
Data columns (total 13 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   Restaurant ID                         19701 non-null  int64
1   Restaurant Name                       19701 non-null  object
2   Country                              19701 non-null  object
3   City                                 19701 non-null  object
4   Cuisines                             19701 non-null  object
5   Average_cost_for_two                 19701 non-null  float64
6   Has Table booking                    19701 non-null  object
7   Has Online delivery                  19701 non-null  object
8   Price range                          19701 non-null  int64
9   Aggregate rating                     19701 non-null  float64
10  Rating color                         19701 non-null  object
11  Rating text                          19701 non-null  object
12  Votes                               19701 non-null  int64
dtypes: float64(2), int64(3), object(8)
memory usage: 2.1+ MB
```

```
In [270... df7['Average_cost_for_two'] = df7['Average_cost_for_two'].astype(dtype=float)
```

```
In [272... df7
```

Out[272...

	Restaurant ID	Restaurant Name	Country	City	Cuisines	Average_cost_for_two	Has Table booking	Has Online delivery	Price range	A
0	7402935	Skye	Indonesia	Jakarta	Italian	800000.0	No	No	3	
1	7402935	Skye	Indonesia	Jakarta	Continental	800000.0	No	No	3	
2	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Asian	800000.0	No	No	3	
3	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Indonesian	800000.0	No	No	3	
4	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Western	800000.0	No	No	3	
...	...	...	...	...	...	...	...	...	...	...
19701	18312106	UrbanCrave	India	Kanpur	Italian	0.0	No	No	1	
19702	18312106	UrbanCrave	India	Kanpur	Beverages	0.0	No	No	1	
19703	3900245	Deena Chat Bhandar	India	Varanasi	Street Food	0.0	No	No	1	
19704	18246202	VNS Live Studio	India	Varanasi	Chinese	0.0	No	No	1	
19705	18246202	VNS Live Studio	India	Varanasi	North Indian	0.0	No	No	1	

19701 rows × 13 columns

```
In [273... df8 = df7.copy()
```



In [286... df8

Out[286... Restaurant ID Restaurant Name Country City Cuisines Average\_cost\_for\_two Has Table booking Has Online delivery Price range A

0	7402935	Skye	Indonesia	Jakarta	Italian	800000.0	No	No	3
1	7402935	Skye	Indonesia	Jakarta	Continental	800000.0	No	No	3
2	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Asian	800000.0	No	No	3
3	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Indonesian	800000.0	No	No	3
4	7410290	Satoo - Hotel Shangri-La	Indonesia	Jakarta	Western	800000.0	No	No	3
...	...	...	...	...	...	...	...	...	...
19701	18312106	UrbanCrave	India	Kanpur	Italian	0.0	No	No	1
19702	18312106	UrbanCrave	India	Kanpur	Beverages	0.0	No	No	1
19703	3900245	Deena Chat Bhandar	India	Varanasi	Street Food	0.0	No	No	1
19704	18246202	VNS Live Studio	India	Varanasi	Chinese	0.0	No	No	1
19705	18246202	VNS Live Studio	India	Varanasi	North Indian	0.0	No	No	1

19701 rows × 13 columns

In [274... df8['City'].unique()

Out[274... array(['Jakarta', 'Tangerang', 'Bogor', 'Bandung', 'New Delhi', 'Pasay City', 'Gurgaon', 'Colombo', 'Mandaluyong City', 'Agra', 'Noida', 'Pretoria', 'Taguig City', 'Kanpur', 'Ghaziabad', 'Jaipur', 'Bangalore', 'Chandigarh', 'Pune', 'Chennai', 'Goa', 'Hyderabad', 'Indore', 'Lucknow', 'Ludhiana', 'Panchkula', 'Ranchi', 'Faridabad', 'Kolkata', 'Ahmedabad', 'Aurangabad', 'Bhopal', 'Mysore', 'Vizag', 'Guwahati', 'Dehradun', 'Mangalore', 'Nagpur', 'Patna', 'Inner City', 'Bhubaneshwar', 'Coimbatore', 'Kochi', 'Mumbai', 'Nashik', 'Puducherry', 'Surat', 'Vadodara', 'Makati City', 'Tagaytay City', 'Amritsar', 'Pasig City', 'Varanasi', 'San Juan City', 'Allahabad', 'Johannesburg', 'Santa Rosa', 'Secunderabad', 'Quezon City', 'Cape Town', 'Mohali', 'Doha', 'Sandton', 'Singapore', 'Abu Dhabi', 'Dubai', 'Sfo Paulo', 'Ankara', 'Brasilia', 'Rio de Janeiro', 'Sharjah', 'London', 'Wellington City', 'Randburg', 'Auckland', 'Istanbul', 'Manchester', 'Paynesville', 'Birmingham', 'Orlando', 'Edinburgh', 'Albany', 'Boise', 'Davenport', 'Des Moines', 'Dubuque', 'Macon', 'Princeton', 'Rest of Hawaii', 'Savannah', 'Sioux City', 'Tampa Bay', 'Valdosta', 'Vineland Station', 'Pocatello', 'Athens', 'Augusta', 'Cedar Rapids/Iowa City', 'Columbus', 'Dalton', 'Gainesville', 'Ojo Caliente', 'Pensacola', 'Waterloo', 'Flaxton', 'Middleton Beach', 'Montville', 'Palm Cove', 'Tanunda', 'Chatham-Kent', 'Cochrane', 'Consort', 'Lincoln', 'Monroe', 'Potrero', 'Weirton', 'Winchester Bay', 'Yorkton', 'Armidale', 'Balingup', 'Beechworth', 'East Ballina', 'Forrest', 'Hepburn Springs', 'Huskisson', 'Lorn', 'Macedon', 'Mayfield', 'Penola', 'Phillip Island', 'Trentham East', 'Victor Harbor', 'Clatskanie', 'Fernley', 'Lakeview', 'Mc Millan', 'Vernonia', 'Beach', 'Inverloch', 'Lakes Entrance'], dtype=object)

```
In [275... df8['City'].replace(to_replace=['São Paulo', 'Brasília', 'İstanbul', 'Cedar Rapids/Iowa Ci
```

```
In [276... df8['City'].unique()
```

```
Out[276... array(['Jakarta', 'Tangerang', 'Bogor', 'Bandung', 'New Delhi',  
      'Pasay City', 'Gurgaon', 'Colombo', 'Mandaluyong City', 'Agra',  
      'Noida', 'Pretoria', 'Taguig City', 'Kanpur', 'Ghaziabad',  
      'Jaipur', 'Bangalore', 'Chandigarh', 'Pune', 'Chennai', 'Goa',  
      'Hyderabad', 'Indore', 'Lucknow', 'Ludhiana', 'Panchkula',  
      'Ranchi', 'Faridabad', 'Kolkata', 'Ahmedabad', 'Aurangabad',  
      'Bhopal', 'Mysore', 'Vizag', 'Guwahati', 'Dehradun', 'Mangalore',  
      'Nagpur', 'Patna', 'Inner City', 'Bhubaneswar', 'Coimbatore',  
      'Kochi', 'Mumbai', 'Nashik', 'Puducherry', 'Surat', 'Vadodara',  
      'Makati City', 'Tagaytay City', 'Amritsar', 'Pasig City',  
      'Varanasi', 'San Juan City', 'Allahabad', 'Johannesburg',  
      'Santa Rosa', 'Secunderabad', 'Quezon City', 'Cape Town', 'Mohali',  
      'Doha', 'Sandton', 'Singapore', 'Abu Dhabi', 'Dubai', 'São Paulo',  
      'Ankara', 'Brasília', 'Rio de Janeiro', 'Sharjah', 'London',  
      'Wellington City', 'Randburg', 'Auckland', 'Istanbul',  
      'Manchester', 'Paynesville', 'Birmingham', 'Orlando', 'Edinburgh',  
      'Albany', 'Boise', 'Davenport', 'Des Moines', 'Dubuque', 'Macon',  
      'Princeton', 'Rest of Hawaii', 'Savannah', 'Sioux City',  
      'Tampa Bay', 'Valdosta', 'Vineland Station', 'Pocatello', 'Athens',  
      'Augusta', 'Cedar Rapids', 'Columbus', 'Dalton', 'Gainesville',  
      'Ojo Caliente', 'Pensacola', 'Waterloo', 'Flaxton',  
      'Middleton Beach', 'Montville', 'Palm Cove', 'Tanunda',  
      'Chatham-Kent', 'Cochrane', 'Consort', 'Lincoln', 'Monroe',  
      'Potrero', 'Weirton', 'Winchester Bay', 'Yorkton', 'Armidale',  
      'Balingup', 'Beechworth', 'East Ballina', 'Forrest',  
      'Hepburn Springs', 'Huskisson', 'Lorn', 'Macedon', 'Mayfield',  
      'Penola', 'Phillip Island', 'Trentham East', 'Victor Harbor',  
      'Clatskanie', 'Fernley', 'Lakeview', 'Mc Millan', 'Vernonia',  
      'Dicky Beach', 'Inverloch', 'Lakes Entrance'], dtype=object)
```

```
In [287... df8.to_excel('July10.xlsx')
```

```
In [288... df8.shape
```

```
Out[288... (19701, 13)
```

```
In [277... df8['Price range'].unique()
```

```
Out[277... array([3, 2, 4, 1], dtype=int64)
```

```
In [278... df8['Aggregate rating'].unique()
```

```
Out[278... array([4.1, 4.6, 4.9, 4.2, 4.3, 3.7, 4. , 3.9, 4.4, 3.4, 3.2, 3.6, 3.5,  
      3.8, 3.1, 3.3, 2.9, 4.7, 0. , 2.7, 4.5, 3. , 2.5, 2.6, 2.2, 2. ,  
      4.8, 2.4, 2.8, 2.1, 2.3, 1.8, 1.9])
```

```
In [279... df8['Rating color'].unique()
```

```
Out[279... array(['Green', 'Dark Green', 'Yellow', 'Orange', 'White', 'Red'],  
      dtype=object)
```

```
In [280... df8['Rating text'].unique()
```

```
Out[280... array(['Very Good', 'Excellent', 'Good', 'Average', 'Not rated', 'Poor'],  
      dtype=object)
```

```
In [283... df8.columns
```

```
Out[283... Index(['Restaurant ID', 'Restaurant Name', 'Country', 'City', 'Cuisines',  
      'Average_cost_for_two', 'Has Table booking', 'Has Online delivery',  
      'Price range', 'Aggregate rating', 'Rating color', 'Rating text',
```

```
'Votes'],  
dtype='object')
```

```
In [294... df8['City'].value_counts()
```

```
Out[294... New Delhi          10888  
Gurgaon           2391  
Noida             2179  
Faridabad         499  
Mumbai            76  
...  
East Ballina      1  
Paynesville       1  
Lincoln           1  
Mayfield          1  
Tagaytay City     1  
Name: City, Length: 140, dtype: int64
```

```
In [ ]:
```