

ZOMATO BANGLORE RESTAURANTS DATASET

```
In [152...]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

Reading CSV File

```
In [153...]: df=pd.read_csv('zomato.csv')
```

```
In [154...]: df.head()
```

Out[154]:

		url	address	name	online_order	book_table	rate
0	https://www.zomato.com/bangalore/jalsabanash...	942, 21st Main Road, 2nd Stage, Banashankari,	Jalsa	Yes	Yes	4.1/5	
1	https://www.zomato.com/bangalore/spice-elephan...	2nd Floor, 80 Feet Road, Near Big Bazaar, 6th ...	Spice Elephant	Yes	No	4.1/5	
2	https://www.zomato.com/SanchurroBangalore?cont...	1112, Next to KIMS Medical College, 17th Cross...	San Churro Cafe	Yes	No	3.8/5	
3	https://www.zomato.com/bangalore/addhuri-udipi...	1st Floor, Annakuteera, 3rd Stage, Banashankar...	Addhuri Udupi Bhojana	No	No	3.7/5	
4	https://www.zomato.com/bangalore/grand-village...	10, 3rd Floor, Lakshmi Associates, Gandhi Baza...	Grand Village	No	No	3.8/5	

```
In [86]: df.shape
```

```
Out[86]: (51717, 17)
```

```
In [87]: df.columns
```

```
Out[87]: Index(['url', 'address', 'name', 'online_order', 'book_table', 'rate', 'votes',  
       'phone', 'location', 'rest_type', 'dish_liked', 'cuisines',  
       'approx_cost(for two people)', 'reviews_list', 'menu_item',  
       'listed_in(type)', 'listed_in(city)'],  
      dtype='object')
```

Dropping of not useful columns

```
In [155... df=df.drop(['url','address','reviews_list','menu_item','phone','listed_in(city')],axis=1)
```

```
In [156... df
```

Out[156]:

	name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cui
0	Jalsa	Yes	Yes	4.1/5	775	Banashankari	Casual Dining	Pasta, Lunch Buffet, Masala Papad, Paneer Laja...	Ir Mu Ch
1	Spice Elephant	Yes	No	4.1/5	787	Banashankari	Casual Dining	Momos, Lunch Buffet, Chocolate Nirvana, Thai G...	Chi Indian
2	San Churro Cafe	Yes	No	3.8/5	918	Banashankari	Cafe, Casual Dining	Churros, Cannelloni, Minestrone Soup, Hot Choc...	Me I
3	Addhuri Udupi Bhojana	No	No	3.7/5	88	Banashankari	Quick Bites	Masala Dosa	S Ir Ili
4	Grand Village	No	No	3.8/5	166	Basavanagudi	Casual Dining	Panipuri, Gol Gappe	I Ir Rajas
...
51712	Best Brews - Four Points by Sheraton Bengaluru...	No	No	3.6 /5	27	Whitefield	Bar	NaN	Contir
51713	Vinod Bar And Restaurant	No	No	Nan	0	Whitefield	Bar	NaN	F
51714	Plunge - Sheraton Grand Bengaluru Whitefield H...	No	No	Nan	0	Whitefield	Bar	NaN	F
51715	Chime - Sheraton Grand Bengaluru Whitefield Ho...	No	Yes	4.3 /5	236	ITPL Main Road, Whitefield	Bar	Cocktails, Pizza, Buttermilk	F
51716	The Nest - The Den Bengaluru	No	No	3.4 /5	13	ITPL Main Road, Whitefield	Bar, Casual Dining	NaN	F I

name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cui
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Contir

Checking null values

In [90]: `df.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51717 entries, 0 to 51716
Data columns (total 11 columns):
 #   Column           Non-Null Count  Dtype  
 ---  --  
 0   name            51717 non-null   object 
 1   online_order    51717 non-null   object 
 2   book_table      51717 non-null   object 
 3   rate            43942 non-null   object 
 4   votes           51717 non-null   int64  
 5   location         51696 non-null   object 
 6   rest_type        51490 non-null   object 
 7   dish_liked       23639 non-null   object 
 8   cuisines         51672 non-null   object 
 9   approx_cost(for two people) 51371 non-null   object 
 10  listed_in(type) 51717 non-null   object 

dtypes: int64(1), object(10)
memory usage: 4.3+ MB
```

Removing Duplicates

In [91]: `df.drop_duplicates(inplace=True)`
`df`

Out[91]:

	name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cui
0	Jalsa	Yes	Yes	4.1/5	775	Banashankari	Casual Dining	Pasta, Lunch Buffet, Masala Papad, Paneer Laja...	Ir Ch Mu
1	Spice Elephant	Yes	No	4.1/5	787	Banashankari	Casual Dining	Momos, Lunch Buffet, Chocolate Nirvana, Thai G...	Chi Indian
2	San Churro Cafe	Yes	No	3.8/5	918	Banashankari	Cafe, Casual Dining	Churros, Cannelloni, Minestrone Soup, Hot Choc...	Me I
3	Addhuri Udupi Bhojana	No	No	3.7/5	88	Banashankari	Quick Bites	Masala Dosa	S Ir Ili
4	Grand Village	No	No	3.8/5	166	Basavanagudi	Casual Dining	Panipuri, Gol Gappe	Ir Rajas
...
51712	Best Brews - Four Points by Sheraton Bengaluru...	No	No	3.6 /5	27	Whitefield	Bar	NaN	Contin
51713	Vinod Bar And Restaurant	No	No	Nan	0	Whitefield	Bar	NaN	F
51714	Plunge - Sheraton Grand Bengaluru Whitefield H...	No	No	Nan	0	Whitefield	Bar	NaN	F
51715	Chime - Sheraton Grand Bengaluru Whitefield Ho...	No	Yes	4.3 /5	236	ITPL Main Road, Whitefield	Bar	Cocktails, Pizza, Buttermilk	F
51716	The Nest - The Den Bengaluru	No	No	3.4 /5	13	ITPL Main Road, Whitefield	Bar, Casual Dining	NaN	F I

name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cui
~5100	11	1						Ir Contin

In [92]: `df['rate'].unique()`

Out[92]: `array(['4.1/5', '3.8/5', '3.7/5', '3.6/5', '4.6/5', '4.0/5', '4.2/5', '3.9/5', '3.1/5', '3.0/5', '3.2/5', '3.3/5', '2.8/5', '4.4/5', '4.3/5', 'NEW', '2.9/5', '3.5/5', nan, '2.6/5', '3.8 /5', '3.4/5', '4.5/5', '2.5/5', '2.7/5', '4.7/5', '2.4/5', '2.2/5', '2.3/5', '3.4 /5', '-', '3.6 /5', '4.8/5', '3.9 /5', '4.2 /5', '4.0 /5', '4.1 /5', '3.7 /5', '3.1 /5', '2.9 /5', '3.3 /5', '2.8 /5', '3.5 /5', '2.7 /5', '2.5 /5', '3.2 /5', '2.6 /5', '4.5 /5', '4.3 /5', '4.4 /5', '4.9/5', '2.1/5', '2.0/5', '1.8/5', '4.6 /5', '4.9 /5', '3.0 /5', '4.8 /5', '2.3 /5', '4.7 /5', '2.4 /5', '2.1 /5', '2.2 /5', '2.0 /5', '1.8 /5'], dtype=object)`

Converting the rate column into float

In [157...]

```
def null_val(value):
    if(value=='NEW' or value == '-'):
        return np.nan
    else:
        value= str(value).split('/')
        value=value[0]
        return float(value)

df['rate']=df['rate'].apply(null_val)
df['rate']
```

Out[157]:

0	4.1
1	4.1
2	3.8
3	3.7
4	3.8
...	
51712	3.6
51713	NaN
51714	NaN
51715	4.3
51716	3.4

Name: rate, Length: 51717, dtype: float64

In [158...]

`df['rate'].isnull().sum()`

Out[158]: 10052

In [159...]

`df['rate'].fillna(df['rate'].mean(), inplace=True)`

In [160...]

`df['rate']`

```
Out[160]: 0      4.100000
           1      4.100000
           2      3.800000
           3      3.700000
           4      3.800000
           ...
          51712    3.600000
          51713    3.700449
          51714    3.700449
          51715    4.300000
          51716    3.400000
Name: rate, Length: 51717, dtype: float64
```

```
In [161... df['rate'].isnull().sum()
```

```
Out[161]: 0
```

```
In [162... df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51717 entries, 0 to 51716
Data columns (total 11 columns):
 #   Column            Non-Null Count  Dtype  
 ---  -- 
 0   name              51717 non-null   object 
 1   online_order      51717 non-null   object 
 2   book_table        51717 non-null   object 
 3   rate              51717 non-null   float64
 4   votes             51717 non-null   int64  
 5   location          51696 non-null   object 
 6   rest_type          51490 non-null   object 
 7   dish_liked         23639 non-null   object 
 8   cuisines          51672 non-null   object 
 9   approx_cost(for two people) 51371 non-null   object 
 10  listed_in(type)   51717 non-null   object 
dtypes: float64(1), int64(1), object(9)
memory usage: 4.3+ MB
```

Cleaning of dish_liked

```
In [99]: df=df.drop('dish_liked',axis=1)
```

```
In [100... df
```

Out[100]:

	name	online_order	book_table	rate	votes	location	rest_type	cuisines	af
0	Jalsa	Yes	Yes	4.100000	775	Banashankari	Casual Dining	North Indian, Mughlai, Chinese	
1	Spice Elephant	Yes	No	4.100000	787	Banashankari	Casual Dining	Chinese, North Indian, Thai	
2	San Churro Cafe	Yes	No	3.800000	918	Banashankari	Cafe, Casual Dining	Cafe, Mexican, Italian	
3	Addhuri Udupi Bhojana	No	No	3.700000	88	Banashankari	Quick Bites	South Indian, North Indian	
4	Grand Village	No	No	3.800000	166	Basavanagudi	Casual Dining	North Indian, Rajasthani	
...
51712	Best Brews - Four Points by Sheraton Bengaluru...	No	No	3.600000	27	Whitefield	Bar	Continental	
51713	Vinod Bar And Restaurant	No	No	3.731079	0	Whitefield	Bar	Finger Food	
51714	Plunge - Sheraton Grand Bengaluru Whitefield H...	No	No	3.731079	0	Whitefield	Bar	Finger Food	
51715	Chime - Sheraton Grand Bengaluru Whitefield Ho...	No	Yes	4.300000	236	ITPL Main Road, Whitefield	Bar	Finger Food	
51716	The Nest - The Den Bengaluru	No	No	3.400000	13	ITPL Main Road, Whitefield	Bar, Casual Dining	Finger Food, North Indian, Continental	

35109 rows × 10 columns

In [101...]

df.info()

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 35109 entries, 0 to 51716
Data columns (total 10 columns):
 #   Column           Non-Null Count  Dtype  
--- 
 0   name             35109 non-null   object  
 1   online_order     35109 non-null   object  
 2   book_table       35109 non-null   object  
 3   rate             35109 non-null   float64 
 4   votes            35109 non-null   int64   
 5   location          35095 non-null   object  
 6   rest_type         34953 non-null   object  
 7   cuisines          35076 non-null   object  
 8   approx_cost(for two people) 34888 non-null   object  
 9   listed_in(type)   35109 non-null   object  
dtypes: float64(1), int64(1), object(8)
memory usage: 2.9+ MB
```

```
In [102...]: df.dropna(inplace=True)
df
```

Out[102]:

	name	online_order	book_table	rate	votes	location	rest_type	cuisines	af
0	Jalsa	Yes	Yes	4.100000	775	Banashankari	Casual Dining	North Indian, Mughlai, Chinese	
1	Spice Elephant	Yes	No	4.100000	787	Banashankari	Casual Dining	Chinese, North Indian, Thai	
2	San Churro Cafe	Yes	No	3.800000	918	Banashankari	Cafe, Casual Dining	Cafe, Mexican, Italian	
3	Addhuri Udupi Bhojana	No	No	3.700000	88	Banashankari	Quick Bites	South Indian, North Indian	
4	Grand Village	No	No	3.800000	166	Basavanagudi	Casual Dining	North Indian, Rajasthani	
...
51712	Best Brews - Four Points by Sheraton Bengaluru...	No	No	3.600000	27	Whitefield	Bar	Continental	
51713	Vinod Bar And Restaurant	No	No	3.731079	0	Whitefield	Bar	Finger Food	
51714	Plunge - Sheraton Grand Bengaluru Whitefield H...	No	No	3.731079	0	Whitefield	Bar	Finger Food	
51715	Chime - Sheraton Grand Bengaluru Whitefield Ho...	No	Yes	4.300000	236	ITPL Main Road, Whitefield	Bar	Finger Food	
51716	The Nest - The Den Bengaluru	No	No	3.400000	13	ITPL Main Road, Whitefield	Bar, Casual Dining	Finger Food, North Indian, Continental	

34734 rows × 10 columns

In [103...]

df.info()

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 34734 entries, 0 to 51716
Data columns (total 10 columns):
 #   Column           Non-Null Count  Dtype  
--- 
 0   name             34734 non-null   object  
 1   online_order     34734 non-null   object  
 2   book_table       34734 non-null   object  
 3   rate             34734 non-null   float64 
 4   votes            34734 non-null   int64   
 5   location          34734 non-null   object  
 6   rest_type         34734 non-null   object  
 7   cuisines          34734 non-null   object  
 8   approx_cost(for two people) 34734 non-null   object  
 9   listed_in(type)   34734 non-null   object  
dtypes: float64(1), int64(1), object(8)
memory usage: 2.9+ MB
```

Renaming the column names

```
In [163... df.rename(columns={'approx_cost(for two people)':'2_plates_cost','listed_in(type)':'T
```

```
In [164... df
```

Out[164]:

		name	online_order	book_table	rate	votes	location	rest_type	dish_liked
0	Jalsa		Yes	Yes	4.100000	775	Banashankari	Casual Dining	Pasta, Lunch Buffet, Masala Papad, Paneer Laja...
1	Spice Elephant		Yes	No	4.100000	787	Banashankari	Casual Dining	Momos, Lunch Buffet, Chocolate Nirvana, Thai G...
2	San Churro Cafe		Yes	No	3.800000	918	Banashankari	Cafe, Casual Dining	Churros, Cannelloni, Minestrone Soup, Hot Choc...
3	Addhuri Udupi Bhojana		No	No	3.700000	88	Banashankari	Quick Bites	Masala Dosa
4	Grand Village		No	No	3.800000	166	Basavanagudi	Casual Dining	Panipuri, Gol Gappe
...
51712	Best Brews - Four Points by Sheraton Bengaluru...		No	No	3.600000	27	Whitefield	Bar	NaN Cc
51713	Vinod Bar And Restaurant		No	No	3.700449	0	Whitefield	Bar	NaN
51714	Plunge - Sheraton Grand Bengaluru Whitefield H...		No	No	3.700449	0	Whitefield	Bar	NaN
51715	Chime - Sheraton Grand Bengaluru Whitefield Ho...		No	Yes	4.300000	236	ITPL Main Road, Whitefield	Bar	Cocktails, Pizza, Buttermilk
51716	The Nest - The Den Bengaluru		No	No	3.400000	13	ITPL Main Road, Whitefield	Bar, Casual Dining	NaN

51717 rows × 11 columns

In [165]: df['location'].unique()

```
Out[165]: array(['Banashankari', 'Basavanagudi', 'Mysore Road', 'Jayanagar',
   'Kumaraswamy Layout', 'Rajarajeshwari Nagar', 'Vijay Nagar',
   'Uttarahalli', 'JP Nagar', 'South Bangalore', 'City Market',
   'Nagarbhavi', 'Bannerghatta Road', 'BTM', 'Kanakapura Road',
   'Bommanahalli', nan, 'CV Raman Nagar', 'Electronic City', 'HSR',
   'Marathahalli', 'Sarjapur Road', 'Wilson Garden', 'Shanti Nagar',
   'Koramangala 5th Block', 'Koramangala 8th Block', 'Richmond Road',
   'Koramangala 7th Block', 'Jalahalli', 'Koramangala 4th Block',
   'Bellandur', 'Whitefield', 'East Bangalore', 'Old Airport Road',
   'Indiranagar', 'Koramangala 1st Block', 'Frazer Town', 'RT Nagar',
   'MG Road', 'Brigade Road', 'Lavelle Road', 'Church Street',
   'Ulsoor', 'Residency Road', 'Shivajinagar', 'Infantry Road',
   'St. Marks Road', 'Cunningham Road', 'Race Course Road',
   'Commercial Street', 'Vasanth Nagar', 'HBR Layout', 'Domlur',
   'Ejipura', 'Jeevan Bhima Nagar', 'Old Madras Road', 'Malleshwaram',
   'Seshadripuram', 'Kammanahalli', 'Koramangala 6th Block',
   'Majestic', 'Langford Town', 'Central Bangalore', 'Sanjay Nagar',
   'Brookefield', 'ITPL Main Road, Whitefield',
   'Varthur Main Road, Whitefield', 'KR Puram',
   'Koramangala 2nd Block', 'Koramangala 3rd Block', 'Koramangala',
   'Hosur Road', 'Rajajinagar', 'Banaswadi', 'North Bangalore',
   'Nagawara', 'Hennur', 'Kalyan Nagar', 'New BEL Road', 'Jakkur',
   'Rammurthy Nagar', 'Thippasandra', 'Kaggadasapura', 'Hebbal',
   'Kengeri', 'Sankey Road', 'Sadashiv Nagar', 'Basaveshwara Nagar',
   'Yeshwantpur', 'West Bangalore', 'Magadi Road', 'Yelahanka',
   'Sahakara Nagar', 'Peenya'], dtype=object)
```

Cleaning the 2platecost column

In [166]: df['2_plates_cost'].unique()

```
Out[166]: array(['800', '300', '600', '700', '550', '500', '450', '650', '400',
   '900', '200', '750', '150', '850', '100', '1,200', '350', '250',
   '950', '1,000', '1,500', '1,300', '199', '80', '1,100', '160',
   '1,600', '230', '130', '50', '190', '1,700', nan, '1,400', '180',
   '1,350', '2,200', '2,000', '1,800', '1,900', '330', '2,500',
   '2,100', '3,000', '2,800', '3,400', '40', '1,250', '3,500',
   '4,000', '2,400', '2,600', '120', '1,450', '469', '70', '3,200',
   '60', '560', '240', '360', '6,000', '1,050', '2,300', '4,100',
   '5,000', '3,700', '1,650', '2,700', '4,500', '140'], dtype=object)
```

```
In [167]: def coma_val(value):
    value=str(value)
    if ',' in value:
        value=value.replace(',', '')
    return float(value)
else:
    return float(value)
```

```
df['2_plates_cost']=df['2_plates_cost'].apply(coma_val)
df['2_plates_cost'].unique()
```

```
Out[167]: array([ 800., 300., 600., 700., 550., 500., 450., 650., 400.,
 900., 200., 750., 150., 850., 100., 1200., 350., 250.,
 950., 1000., 1500., 1300., 199., 80., 1100., 160., 1600.,
 230., 130., 50., 190., 1700., nan, 1400., 180., 1350.,
 2200., 2000., 1800., 1900., 330., 2500., 2100., 3000., 2800.,
 3400., 40., 1250., 3500., 4000., 2400., 2600., 120., 1450.,
 469., 70., 3200., 60., 560., 240., 360., 6000., 1050.,
 2300., 4100., 5000., 3700., 1650., 2700., 4500., 140.])
```

```
In [168... df['rest_type'].unique()
```

```
Out[168]: array(['Casual Dining', 'Cafe', 'Casual Dining', 'Quick Bites',
 'Casual Dining, Cafe', 'Cafe', 'Quick Bites, Cafe',
 'Cafe, Quick Bites', 'Delivery', 'Mess', 'Dessert Parlor',
 'Bakery, Dessert Parlor', 'Pub', 'Bakery', 'Takeaway, Delivery',
 'Fine Dining', 'Beverage Shop', 'Sweet Shop', 'Bar',
 'Beverage Shop, Quick Bites', 'Confectionery',
 'Quick Bites, Beverage Shop', 'Dessert Parlor, Sweet Shop',
 'Bakery, Quick Bites', 'Sweet Shop, Quick Bites', 'Kiosk',
 'Food Truck', 'Quick Bites, Dessert Parlor',
 'Beverage Shop, Dessert Parlor', 'Takeaway', 'Pub, Casual Dining',
 'Casual Dining, Bar', 'Dessert Parlor, Beverage Shop',
 'Quick Bites, Bakery', 'Dessert Parlor, Quick Bites',
 'Microbrewery, Casual Dining', 'Lounge', 'Bar, Casual Dining',
 'Food Court', 'Cafe, Bakery', nan, 'Dhaba',
 'Quick Bites, Sweet Shop', 'Microbrewery',
 'Food Court, Quick Bites', 'Pub, Bar', 'Casual Dining, Pub',
 'Lounge, Bar', 'Food Court, Dessert Parlor',
 'Casual Dining, Sweet Shop', 'Food Court, Casual Dining',
 'Casual Dining, Microbrewery', 'Sweet Shop, Dessert Parlor',
 'Bakery, Beverage Shop', 'Lounge, Casual Dining',
 'Cafe, Food Court', 'Beverage Shop, Cafe', 'Cafe, Dessert Parlor',
 'Dessert Parlor, Cafe', 'Dessert Parlor, Bakery',
 'Microbrewery, Pub', 'Bakery, Food Court', 'Club',
 'Quick Bites, Food Court', 'Bakery, Cafe', 'Bar, Cafe',
 'Pub, Cafe', 'Casual Dining, Irani Cafee', 'Fine Dining, Lounge',
 'Bar, Quick Bites', 'Bakery, Kiosk', 'Pub, Microbrewery',
 'Microbrewery, Lounge', 'Fine Dining, Microbrewery',
 'Fine Dining, Bar', 'Mess, Quick Bites', 'Dessert Parlor, Kiosk',
 'Bhojanalya', 'Casual Dining, Quick Bites', 'Pop Up', 'Cafe, Bar',
 'Casual Dining, Lounge', 'Bakery, Sweet Shop', 'Microbrewery, Bar',
 'Cafe, Lounge', 'Bar, Pub', 'Lounge, Cafe', 'Club, Casual Dining',
 'Quick Bites, Mess', 'Quick Bites, Meat Shop',
 'Quick Bites, Kiosk', 'Lounge, Microbrewery',
 'Food Court, Beverage Shop', 'Dessert Parlor, Food Court',
 'Bar, Lounge'], dtype=object)
```

```
In [169... df['rest_type'].value_counts()
```

```
Out[169]:   Quick Bites      19132
              Casual Dining    10330
                  Cafe          3732
                  Delivery       2604
                  Dessert Parlor  2263
                  ...
                  Dessert Parlor, Kiosk 2
                  Food Court, Beverage Shop 2
                  Dessert Parlor, Food Court 2
                  Sweet Shop, Dessert Parlor 1
                  Quick Bites, Kiosk 1
Name: rest_type, Length: 93, dtype: int64
```

```
In [170... R_type=df['rest_type'].value_counts(ascending=False)
R_type
```

```
Out[170]:   Quick Bites      19132
              Casual Dining    10330
                  Cafe          3732
                  Delivery       2604
                  Dessert Parlor  2263
                  ...
                  Dessert Parlor, Kiosk 2
                  Food Court, Beverage Shop 2
                  Dessert Parlor, Food Court 2
                  Sweet Shop, Dessert Parlor 1
                  Quick Bites, Kiosk 1
Name: rest_type, Length: 93, dtype: int64
```

```
In [171... # rest_type less than 1000 considered as others
```

```
In [172... R_type_lessthan_1000=R_type[R_type <1000]
R_type_lessthan_1000
```

```
Out[172]:   Beverage Shop     867
              Bar             697
              Food Court        624
              Sweet Shop         468
              Bar, Casual Dining 425
              ...
              Dessert Parlor, Kiosk 2
              Food Court, Beverage Shop 2
              Dessert Parlor, Food Court 2
              Sweet Shop, Dessert Parlor 1
              Quick Bites, Kiosk 1
Name: rest_type, Length: 85, dtype: int64
```

restaurants having rest_type count is less than 1000 in frequency as others

```
In [173... def r_type(value):
    if value in R_type_lessthan_1000:
        return "others"
    else:
        return value

df['rest_type']=df['rest_type'].apply(r_type)
df['rest_type'].value_counts()
```

```
Out[173]:
```

Quick Bites	19132
Casual Dining	10330
others	9097
Cafe	3732
Delivery	2604
Dessert Parlor	2263
Takeaway, Delivery	2037
Casual Dining, Bar	1154
Bakery	1141

Name: rest_type, dtype: int64

```
In [174... df.head()
```

```
Out[174]:
```

	name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cuisines	2_I
0	Jalsa	Yes	Yes	4.1	775	Banashankari	Casual Dining	Pasta, Lunch Buffet, Masala Papad, Paneer Laja...	North Indian, Mughlai, Chinese	
1	Spice Elephant	Yes	No	4.1	787	Banashankari	Casual Dining	Momos, Lunch Buffet, Chocolate Nirvana, Thai G...	Chinese, North Indian, Thai	
2	San Churro Cafe	Yes	No	3.8	918	Banashankari	others	Churros, Cannelloni, Minestrone Soup, Hot Choc...	Cafe, Mexican, Italian	
3	Addhuri Udupi Bhojana	No	No	3.7	88	Banashankari	Quick Bites	Masala Dosa	South Indian, North Indian	
4	Grand Village	No	No	3.8	166	Basavanagudi	Casual Dining	Panipuri, Gol Gappe	North Indian, Rajasthani	

```
In [175... df['location'].unique()
```

```
Out[175]: array(['Banashankari', 'Basavanagudi', 'Mysore Road', 'Jayanagar',  
   'Kumaraswamy Layout', 'Rajarajeshwari Nagar', 'Vijay Nagar',  
   'Uttarahalli', 'JP Nagar', 'South Bangalore', 'City Market',  
   'Nagarbhavi', 'Bannerghatta Road', 'BTM', 'Kanakapura Road',  
   'Bommanahalli', nan, 'CV Raman Nagar', 'Electronic City', 'HSR',  
   'Marathahalli', 'Sarjapur Road', 'Wilson Garden', 'Shanti Nagar',  
   'Koramangala 5th Block', 'Koramangala 8th Block', 'Richmond Road',  
   'Koramangala 7th Block', 'Jalahalli', 'Koramangala 4th Block',  
   'Bellandur', 'Whitefield', 'East Bangalore', 'Old Airport Road',  
   'Indiranagar', 'Koramangala 1st Block', 'Frazer Town', 'RT Nagar',  
   'MG Road', 'Brigade Road', 'Lavelle Road', 'Church Street',  
   'Ulsoor', 'Residency Road', 'Shivajinagar', 'Infantry Road',  
   'St. Marks Road', 'Cunningham Road', 'Race Course Road',  
   'Commercial Street', 'Vasanth Nagar', 'HBR Layout', 'Domlur',  
   'Ejipura', 'Jeevan Bhima Nagar', 'Old Madras Road', 'Malleshwaram',  
   'Seshadripuram', 'Kammanahalli', 'Koramangala 6th Block',  
   'Majestic', 'Langford Town', 'Central Bangalore', 'Sanjay Nagar',  
   'Brookefield', 'ITPL Main Road, Whitefield',  
   'Varthur Main Road, Whitefield', 'KR Puram',  
   'Koramangala 2nd Block', 'Koramangala 3rd Block', 'Koramangala',  
   'Hosur Road', 'Rajajinagar', 'Banaswadi', 'North Bangalore',  
   'Nagawara', 'Hennur', 'Kalyan Nagar', 'New BEL Road', 'Jakkur',  
   'Rammurthy Nagar', 'Thippasandra', 'Kaggadasapura', 'Hebbal',  
   'Kengeri', 'Sankey Road', 'Sadashiv Nagar', 'Basaveshwara Nagar',  
   'Yeshwantpur', 'West Bangalore', 'Magadi Road', 'Yelahanka',  
   'Sahakara Nagar', 'Peenya'], dtype=object)
```

```
In [176...]: location=df['location'].value_counts(ascending=False)
```

```
In [177...]: # resautants in Less than 500 Locations
```

```
In [178...]: location_lessthan500=location[location<500]  
location_lessthan500
```

Out[178]:	Shivajinagar	499
	Domlur	496
	Cunningham Road	491
	Old Airport Road	446
	Ejipura	439
	Commercial Street	370
	St. Marks Road	352
	Koramangala 8th Block	320
	Vasanth Nagar	295
	Jeevan Bhima Nagar	272
	Wilson Garden	246
	Bommanahalli	238
	Koramangala 3rd Block	216
	Kumaraswamy Layout	195
	Thippasandra	194
	Basaveshwara Nagar	191
	Nagawara	187
	Seshadripuram	165
	Hennur	161
	Majestic	155
	HBR Layout	153
	Infantry Road	151
	Race Course Road	139
	City Market	126
	Yeshwantpur	119
	Varthur Main Road, Whitefield	117
	ITPL Main Road, Whitefield	113
	South Bangalore	107
	Koramangala 2nd Block	102
	Hosur Road	102
	Kaggadasapura	101
	CV Raman Nagar	90
	Vijay Nagar	80
	RT Nagar	80
	Sanjay Nagar	76
	Sadashiv Nagar	63
	Sahakara Nagar	53
	Koramangala	48
	East Bangalore	44
	Jalahalli	38
	Magadi Road	34
	Rammurthy Nagar	32
	Langford Town	27
	Sankey Road	27
	Old Madras Road	22
	Mysore Road	22
	Kanakapura Road	19
	KR Puram	18
	Uttarahalli	17
	Hebbal	14
	North Bangalore	14
	Kengeri	9
	Nagarbhavi	9
	Central Bangalore	8
	West Bangalore	6
	Yelahanka	6
	Jakkur	3
	Rajarajeshwari Nagar	2
	Peenya	1

Name: location, dtype: int64

locations less than 500 in frequency as others

In [179...]

```
def location_val(value):
    if value in location_lessthan500:
        return "Others"
    else:
        return value

df['location']=df['location'].apply(location_val)
df['location'].value_counts(ascending= True)
```

Out[179]:

Shanti Nagar	511
Lavelle Road	529
Church Street	569
Rajajinagar	591
Kammanahalli	648
New BEL Road	649
Brookefield	658
Banaswadi	664
Residency Road	675
Basavanagudi	684
Malleleshwaram	725
Frazer Town	727
Richmond Road	812
Kalyan Nagar	853
Banashankari	906
MG Road	918
Koramangala 4th Block	1017
Ulsoor	1023
Sarjapur Road	1065
Koramangala 6th Block	1156
Koramangala 7th Block	1181
Brigade Road	1218
Koramangala 1st Block	1238
Electronic City	1258
Bellandur	1286
Bannerghatta Road	1630
Marathahalli	1846
Jayanagar	1926
Indiranagar	2083
Whitefield	2144
JP Nagar	2235
Koramangala 5th Block	2504
HSR	2523
BTM	5124
Others	8120

Name: location, dtype: int64

In [180...]

```
df.head()
```

	name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cuisines	2_I
0	Jalsa	Yes	Yes	4.1	775	Banashankari	Casual Dining	Pasta, Lunch Buffet, Masala Papad, Paneer Laja...	North Indian, Mughlai, Chinese	
1	Spice Elephant	Yes	No	4.1	787	Banashankari	Casual Dining	Momos, Lunch Buffet, Chocolate Nirvana, Thai G...	Chinese, North Indian, Thai	
2	San Churro Cafe	Yes	No	3.8	918	Banashankari	others	Churros, Cannelloni, Minestrone Soup, Hot Choc...	Cafe, Mexican, Italian	
3	Addhuri Udupi Bhojana	No	No	3.7	88	Banashankari	Quick Bites	Masala Dosa	South Indian, North Indian	
4	Grand Village	No	No	3.8	166	Basavanagudi	Casual Dining	Panipuri, Gol Gappe	North Indian, Rajasthani	

In [181...]: `cuisines=df['cuisines'].value_counts(ascending=True)`
`cuisines`

Out[181]:

North Indian, Chinese, Arabian, Momos	1
Fast Food, Arabian, North Indian	1
Kerala, Biryani, Seafood, North Indian	1
Street Food, Mithai, North Indian	1
Fast Food, Street Food, North Indian, Biryani	1
...	
Bakery, Desserts	911
Biryani	918
South Indian	1828
North Indian, Chinese	2385
North Indian	2913

Name: cuisines, Length: 2723, dtype: int64

In [182...]: `cuisines_lessthan150=cuisines[cuisines<150]`
`cuisines_lessthan150`

```
Out[182]:
```

North Indian, Chinese, Arabian, Momos	1
Fast Food, Arabian, North Indian	1
Kerala, Biryani, Seafood, North Indian	1
Street Food, Mithai, North Indian	1
Fast Food, Street Food, North Indian, Biryani	1
...	
Kerala, South Indian	136
Cafe, Desserts	136
Andhra, Biryani	143
Biryani, North Indian, Chinese	147
Pizza, Fast Food	149

Name: cuisines, Length: 2672, dtype: int64

```
In [183...]
```

```
def cuise_val(value):  
    if value in cuisines_lessthan150:  
        return "Others"  
    else:  
        return value  
  
df['cuisines']=df['cuisines'].apply(cuise_val)  
df['cuisines'].value_counts()
```

Out[183]:	Others	28693
	North Indian	2913
	North Indian, Chinese	2385
	South Indian	1828
	Biryani	918
	Bakery, Desserts	911
	Fast Food	803
	Desserts	766
	Cafe	756
	South Indian, North Indian, Chinese	726
	Bakery	651
	Chinese	556
	Ice Cream, Desserts	417
	Chinese, North Indian	415
	Mithai, Street Food	372
	Desserts, Ice Cream	354
	North Indian, Chinese, Biryani	352
	North Indian, South Indian	343
	South Indian, North Indian	343
	North Indian, South Indian, Chinese	305
	Beverages	301
	North Indian, Biryani	285
	Biryani, Kebab	279
	Biryani, North Indian	269
	Finger Food	269
	Desserts, Beverages	265
	Street Food	257
	South Indian, Chinese	254
	Beverages, Fast Food	248
	South Indian, Biryani	248
	Chinese, Momos	238
	North Indian, Fast Food	237
	Cafe, Fast Food	230
	Fast Food, Beverages	225
	Ice Cream	213
	North Indian, Chinese, South Indian	210
	Kerala	208
	Desserts, Bakery	203
	Bakery, Fast Food	201
	Continental	196
	North Indian, Mughlai	188
	South Indian, North Indian, Chinese, Street Food	186
	Cafe, Continental	173
	Fast Food, Rolls	172
	Andhra	171
	Burger, Fast Food	170
	Biryani, Fast Food	168
	North Indian, Chinese, Fast Food	167
	Chinese, Thai	167
	Pizza	160
	Arabian	156
	North Indian, Street Food	151
	Name: cuisines, dtype: int64	

In [184...]

df.head()

Out[184]:

	name	online_order	book_table	rate	votes	location	rest_type	dish_liked	cuisines	2_pl...
0	Jalsa	Yes	Yes	4.1	775	Banashankari	Casual Dining	Pasta, Lunch Buffet, Masala Papad, Paneer Laja...	Others	
1	Spice Elephant	Yes	No	4.1	787	Banashankari	Casual Dining	Momos, Lunch Buffet, Chocolate Nirvana, Thai G...	Others	
2	San Churro Cafe	Yes	No	3.8	918	Banashankari	others	Churros, Cannelloni, Minestrone Soup, Hot Choc...	Others	
3	Addhuri Udupi Bhojana	No	No	3.7	88	Banashankari	Quick Bites	Masala Dosa	South Indian, North Indian	
4	Grand Village	No	No	3.8	166	Basavanagudi	Casual Dining	Panipuri, Gol Gappe	Others	

In [185...]

```
df['Type'].value_counts(ascending=True)
```

Out[185]:

Pubs and bars	697
Buffet	882
Drinks & nightlife	1101
Cafes	1723
Desserts	3593
Dine-out	17779
Delivery	25942
Name: Type, dtype: int64	

Visualization

count of plot for various locations

In [186...]

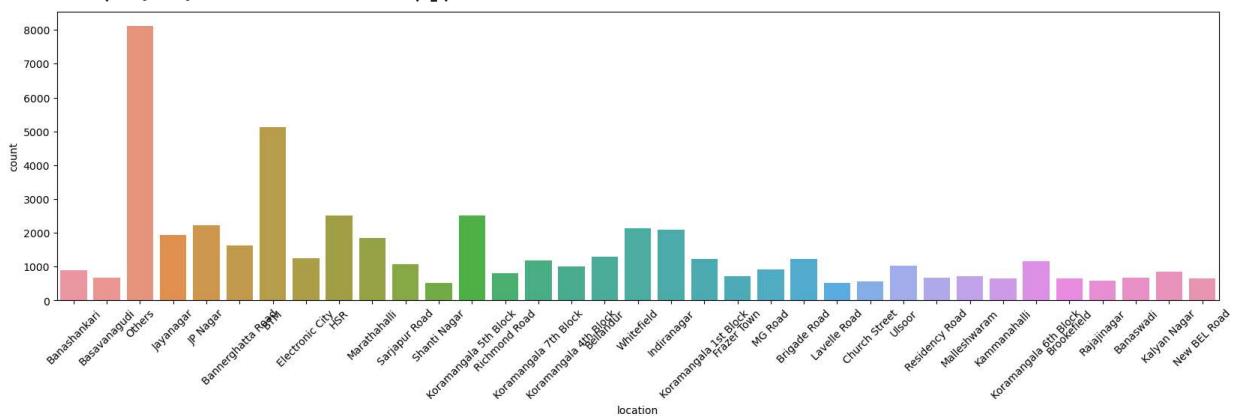
```
plt.figure(figsize=(20,5))
ax=sns.countplot(df['location'])
plt.xticks(rotation=45)
```

C:\Users\HP\Anaconda3\lib\site-packages\seaborn_decorators.py:36: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.

```
warnings.warn(
```

```
Out[186]: (array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16,
       17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33,
       34]),

[Text(0, 0, 'Bananashankari'),
 Text(1, 0, 'Basavanagudi'),
 Text(2, 0, 'Others'),
 Text(3, 0, 'Jayanagar'),
 Text(4, 0, 'JP Nagar'),
 Text(5, 0, 'Bannerghatta Road'),
 Text(6, 0, 'BTM'),
 Text(7, 0, 'Electronic City'),
 Text(8, 0, 'HSR'),
 Text(9, 0, 'Marathahalli'),
 Text(10, 0, 'Sarjapur Road'),
 Text(11, 0, 'Shanti Nagar'),
 Text(12, 0, 'Koramangala 5th Block'),
 Text(13, 0, 'Richmond Road'),
 Text(14, 0, 'Koramangala 7th Block'),
 Text(15, 0, 'Koramangala 4th Block'),
 Text(16, 0, 'Bellandur'),
 Text(17, 0, 'Whitefield'),
 Text(18, 0, 'Indiranagar'),
 Text(19, 0, 'Koramangala 1st Block'),
 Text(20, 0, 'Frazer Town'),
 Text(21, 0, 'MG Road'),
 Text(22, 0, 'Brigade Road'),
 Text(23, 0, 'Lavelle Road'),
 Text(24, 0, 'Church Street'),
 Text(25, 0, 'Ulsoor'),
 Text(26, 0, 'Residency Road'),
 Text(27, 0, 'Malleshwaram'),
 Text(28, 0, 'Kammanahalli'),
 Text(29, 0, 'Koramangala 6th Block'),
 Text(30, 0, 'Brookefield'),
 Text(31, 0, 'Rajajinagar'),
 Text(32, 0, 'Banaswadi'),
 Text(33, 0, 'Kalyan Nagar'),
 Text(34, 0, 'New BEL Road')])
```



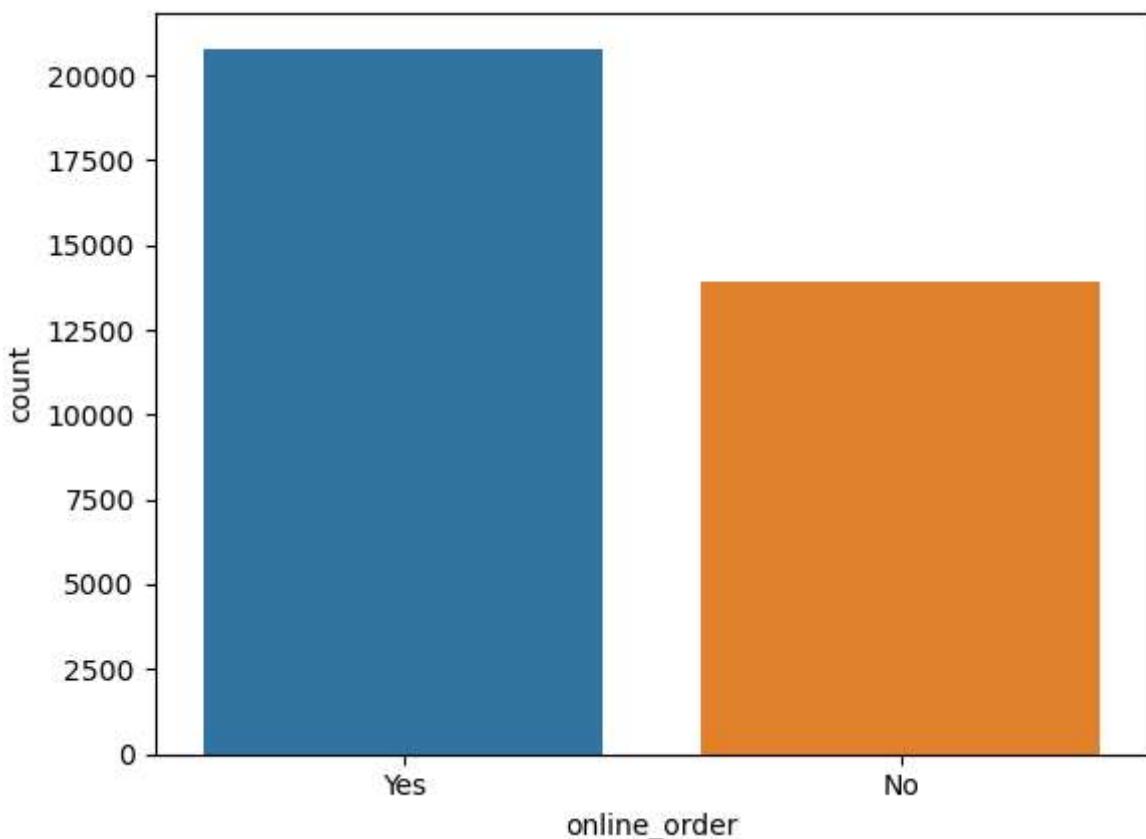
Plot for restuarants having online order or not

```
In [126...]: plt.figure
sns.countplot(df['online_order'])
```

```
C:\Users\HP\Anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
```

```
    warnings.warn(
```

```
Out[126]: <AxesSubplot:xlabel='online_order', ylabel='count'>
```



Plot for restaurants having booking table option is available or not

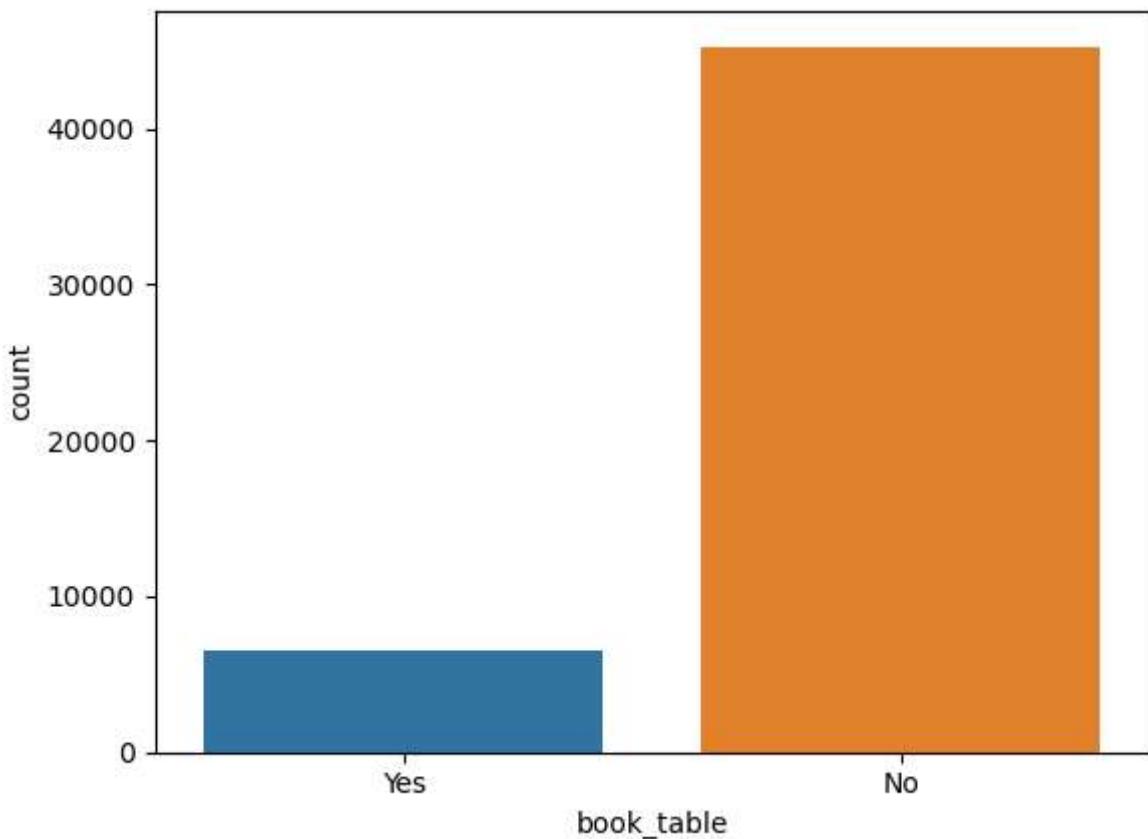
```
In [187...]
```

```
plt.figure  
sns.countplot(df['book_table'])
```

```
C:\Users\HP\Anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
```

```
    warnings.warn(
```

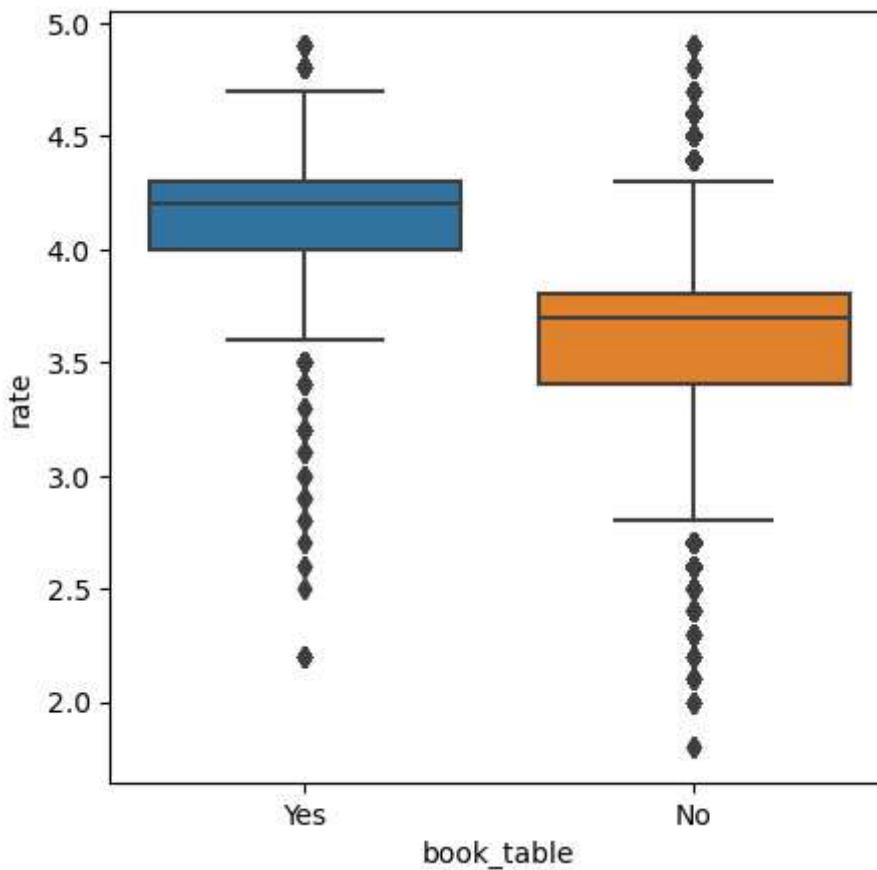
```
Out[187]: <AxesSubplot:xlabel='book_table', ylabel='count'>
```



Box plot to analyze the booking tables based on rating

```
In [188]: plt.figure(figsize=(5,5))
sns.boxplot(x='book_table',y='rate',data=df)

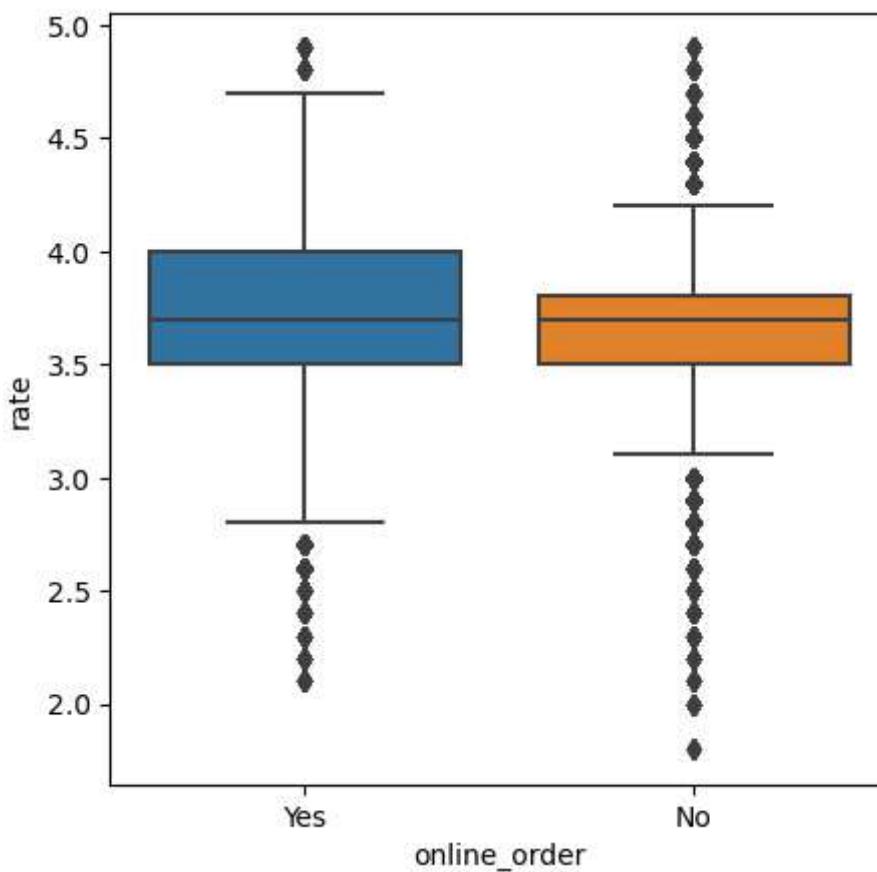
Out[188]: <AxesSubplot:xlabel='book_table', ylabel='rate'>
```



Box plot to analyze online orders based on rating

```
In [189]: plt.figure(figsize=(5,5))
sns.boxplot(x='online_order',y='rate',data=df)
```

```
Out[189]: <AxesSubplot:xlabel='online_order', ylabel='rate'>
```



Based on location analysing the online orders

```
In [130... df1=df.groupby(['location','online_order'])['name'].count()  
df1.to_csv('online_location.csv')
```

```
In [131... df1=pd.read_csv('online_location.csv')
```

```
In [132... df1=pd.pivot_table(df1,index=['location'],columns=['online_order'],fill_value=0,aggfunc='sum')  
df1
```

Out[132]:

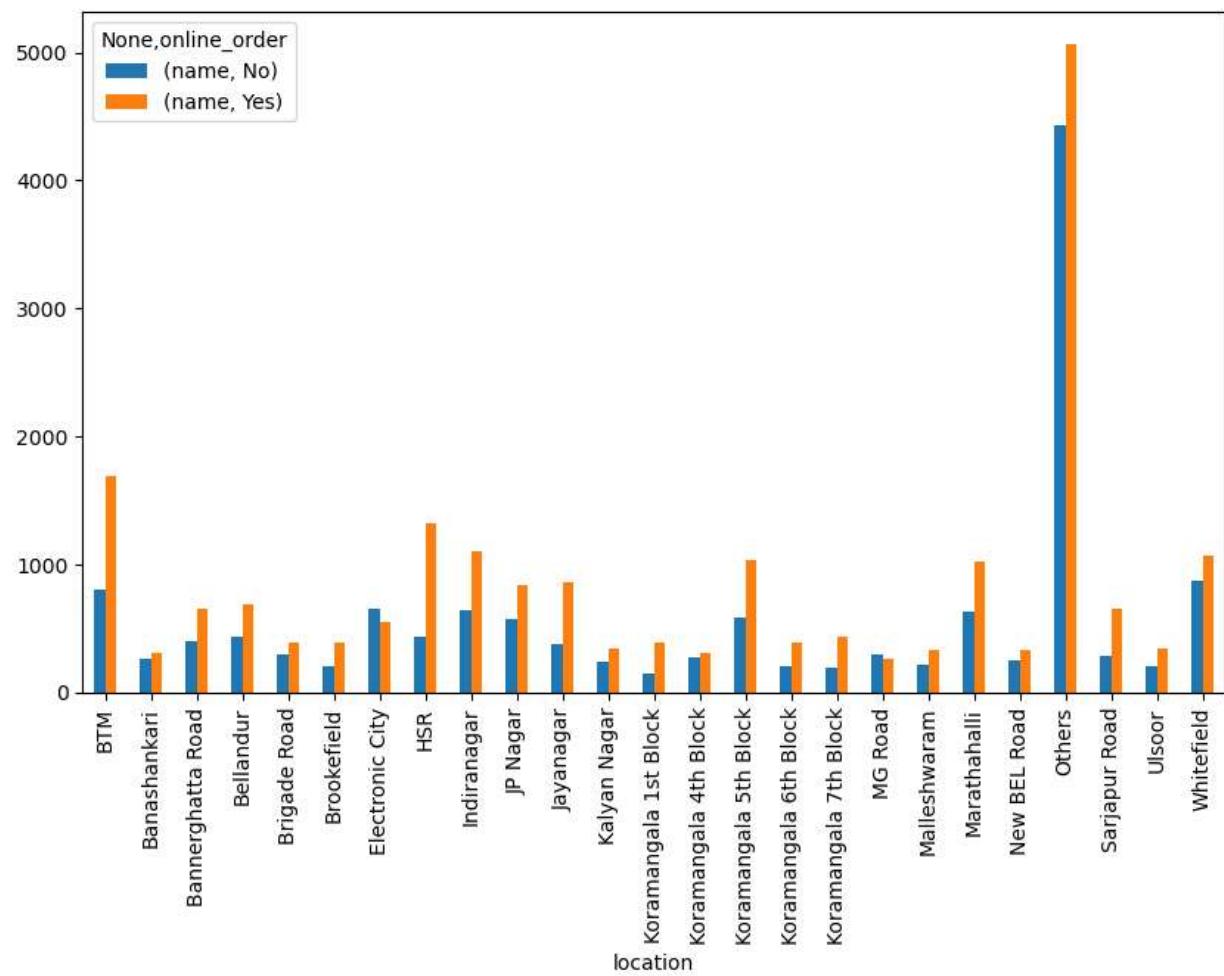
		name	
online_order	No	Yes	
location			
BTM	803	1687	
Banashankari	260	312	
Bannerghatta Road	399	657	
Bellandur	437	687	
Brigade Road	294	396	
Brookefield	206	392	
Electronic City	657	555	
HSR	438	1320	
Indiranagar	647	1103	
JP Nagar	571	844	
Jayanagar	380	867	
Kalyan Nagar	241	344	
Koramangala 1st Block	148	393	
Koramangala 4th Block	281	308	
Koramangala 5th Block	582	1031	
Koramangala 6th Block	212	386	
Koramangala 7th Block	191	435	
MG Road	300	261	
Malleleshwaram	224	332	
Marathahalli	628	1021	
New BEL Road	250	332	
Others	4426	5064	
Sarjapur Road	282	654	
Ulsoor	203	348	
Whitefield	880	1065	

In [133...]

df1.plot(kind='bar', figsize=(10,6))

Out[133]:

<AxesSubplot:xlabel='location'>



Based on location analysing the booking table

```
In [134...]: df2=df.groupby(['location','book_table'])['name'].count()
df2.to_csv('Booktable_location.csv')
```

```
In [135...]: df2=pd.read_csv('Booktable_location.csv')
df2=pd.pivot_table(df2,index='location',columns='book_table',fill_value=0,aggfunc=np.sum)
```

```
In [136...]: df2
```

Out[136]:

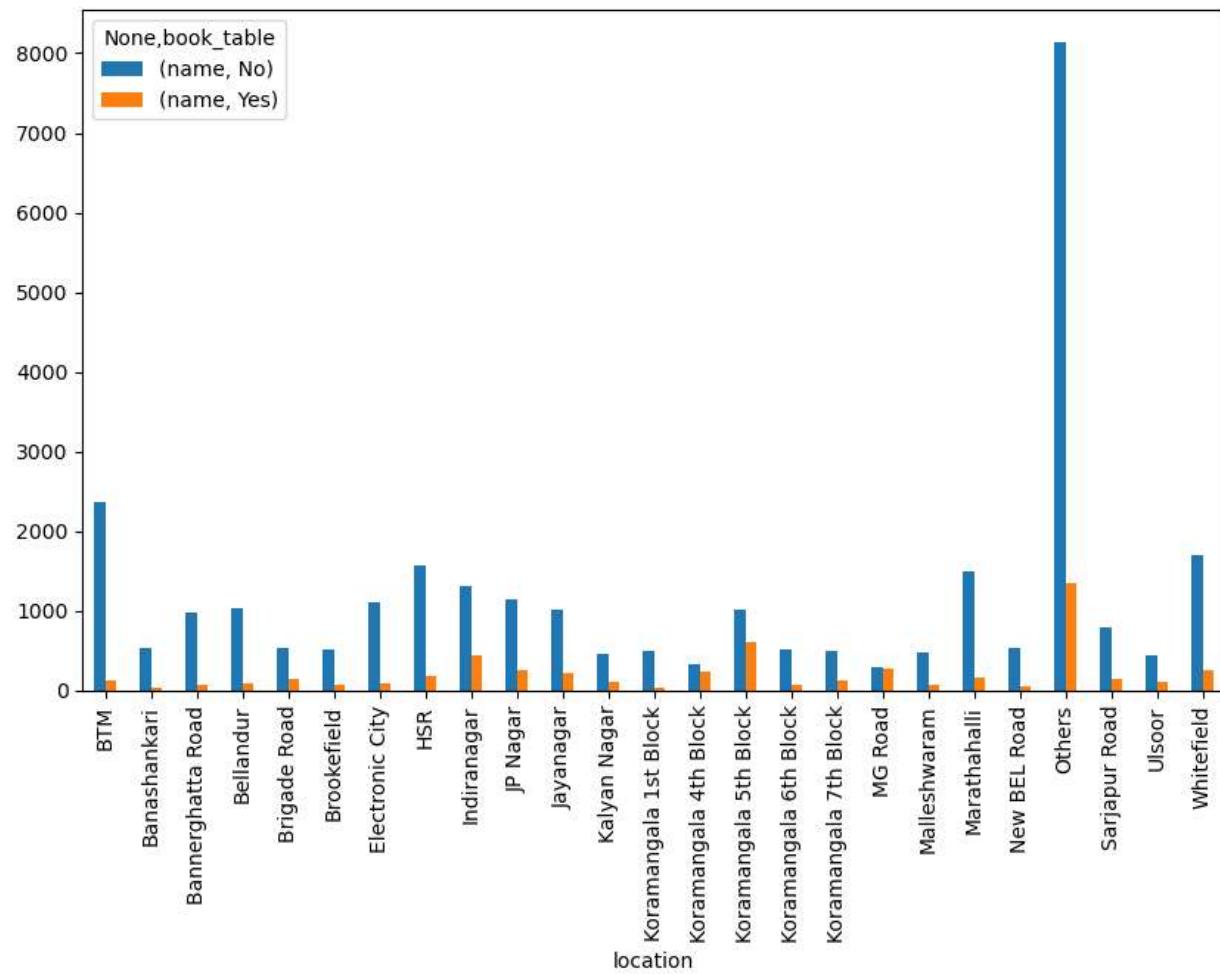
		name
book_table	No	Yes
location		
BTM	2363	127
Banashankari	528	44
Bannerghatta Road	976	80
Bellandur	1027	97
Brigade Road	543	147
Brookefield	525	73
Electronic City	1116	96
HSR	1569	189
Indiranagar	1310	440
JP Nagar	1152	263
Jayanagar	1020	227
Kalyan Nagar	467	118
Koramangala 1st Block	499	42
Koramangala 4th Block	340	249
Koramangala 5th Block	1010	603
Koramangala 6th Block	517	81
Koramangala 7th Block	496	130
MG Road	291	270
Malleshwaram	475	81
Marathahalli	1492	157
New BEL Road	527	55
Others	8139	1351
Sarjapur Road	789	147
Ulsoor	436	115
Whitefield	1693	252

In [137...]

df2.plot(kind='bar', figsize=(10,6))

Out[137]:

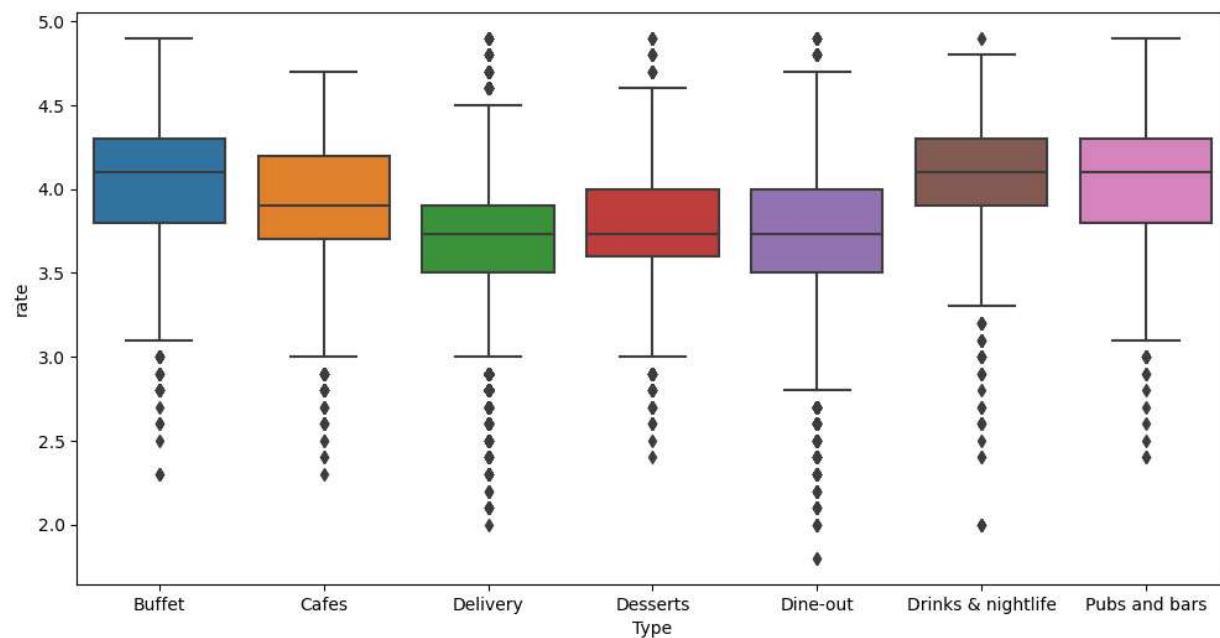
<AxesSubplot:xlabel='location'>



Analysing which type of restaurants has most rating

```
In [138]: plt.figure(figsize=(12,6))
sns.boxplot(x='Type',y='rate',data=df)
```

```
Out[138]: <AxesSubplot:xlabel='Type', ylabel='rate'>
```



Based on location which type of restaurant present

```
In [190... df3=df.groupby(['location','Type'])['name'].count()  
df3.to_csv('Type.csv')
```

```
In [191... df3=pd.read_csv('Type.csv')  
df3=pd.pivot_table(df3,index=['location'],columns=['Type'],fill_value=0,aggfunc=np.sum)
```

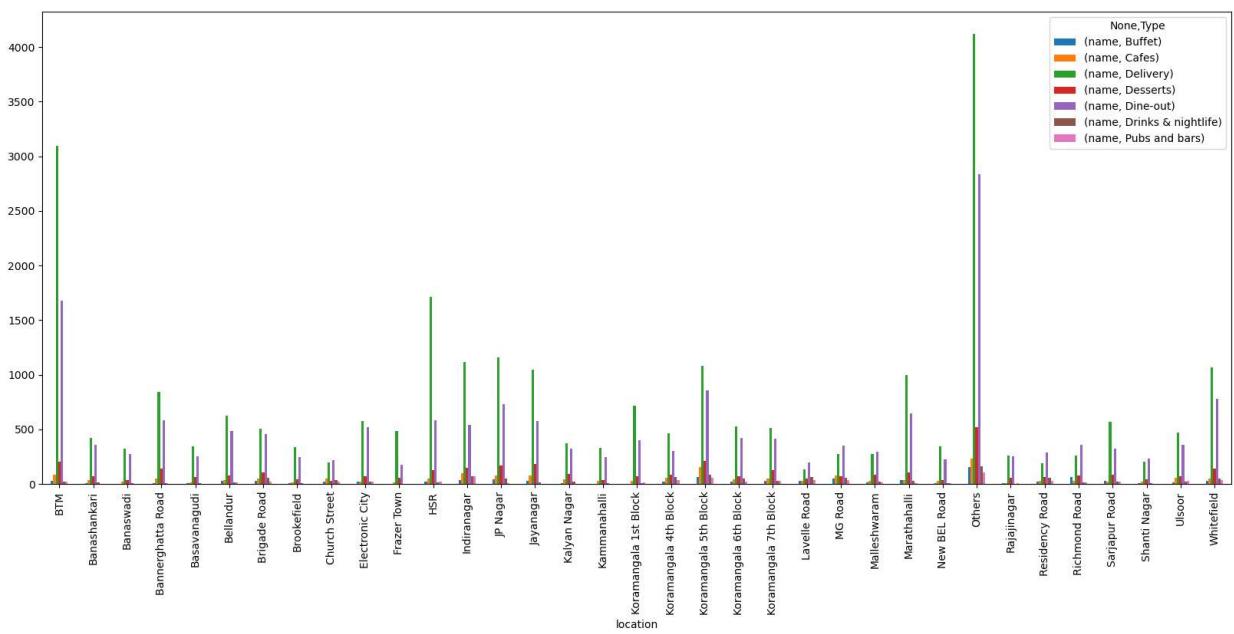
Out[191]:

	Type	Buffet	Cafes	Delivery	Desserts	Dine-out	Drinks & nightlife	Pubs and bars	name
location									
	BTM	25	83	3095	202	1678	22	19	
	Banashankari	7	36	420	71	358	14	0	
	Banaswadi	0	24	323	37	273	6	1	
	Bannerghatta Road	9	46	842	137	585	9	2	
	Basavanagudi	7	11	344	66	251	5	0	
	Bellandur	28	36	627	77	485	17	16	
	Brigade Road	25	46	504	108	455	58	22	
	Brookefield	6	17	340	45	246	4	0	
	Church Street	19	51	196	29	215	36	23	
	Electronic City	23	24	577	71	521	21	21	
	Frazer Town	1	11	481	56	174	2	2	
	HSR	19	49	1716	123	584	14	18	
	Indiranagar	38	100	1118	146	543	69	69	
	JP Nagar	45	76	1160	166	730	51	7	
	Jayanagar	27	77	1049	182	579	12	0	
	Kalyan Nagar	9	45	370	88	323	18	0	
	Kammanahalli	2	27	333	35	245	6	0	
	Koramangala 1st Block	3	26	718	70	398	7	16	
	Koramangala 4th Block	21	53	464	81	302	62	34	
	Koramangala 5th Block	65	151	1083	210	853	84	58	
	Koramangala 6th Block	18	43	528	70	423	51	23	
	Koramangala 7th Block	25	52	509	127	417	25	26	
	Lavelle Road	30	27	131	50	195	61	35	
	MG Road	51	78	272	73	349	57	38	
	Malleshwaram	11	31	272	85	292	20	14	
	Marathahalli	37	32	995	107	644	26	5	
	New BEL Road	4	29	341	34	225	8	8	
	Others	151	229	4119	519	2835	162	105	

	Type	Buffet	Cafes	Delivery	Desserts	Dine-out	Drinks & nightlife	Pubs and bars	name
location									
	Rajajinagar	10	4	258	55	251	3	10	
	Residency Road	20	31	188	63	291	56	26	
	Richmond Road	63	25	258	78	360	16	12	
	Sarjapur Road	26	23	565	83	326	20	22	
	Shanti Nagar	9	22	201	39	229	9	2	
	Ulsoor	16	56	468	71	359	23	30	
	Whitefield	28	51	1068	139	778	47	33	

In [192]: df3.plot(kind='bar', figsize=(20,8))

Out[192]: <AxesSubplot:xlabel='location'>



In [193]: df4=df[['location','votes']]
df4.drop_duplicates()

Out[193]:

	location	votes
0	Banashankari	775
1	Banashankari	787
2	Banashankari	918
3	Banashankari	88
4	Basavanagudi	166
...
51328	Whitefield	152
51547	Whitefield	203
51606	Others	848
51628	Bellandur	411
51677	Whitefield	81

9124 rows × 2 columns

In [194...]

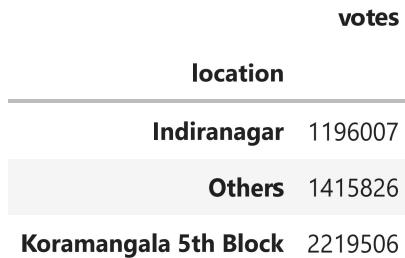
```
df5=df4.groupby(['location'])['votes'].sum()  
df5=df5.to_frame()
```

In [195...]

```
df5=df5.sort_values('votes',ascending=True)  
df5
```

Out[195]:

	votes
location	
Banaswadi	35657
Shanti Nagar	55876
Rajajinagar	85274
Basavanagudi	94919
Frazer Town	98736
Kammanahalli	106179
Electronic City	111035
Brookefield	118991
Richmond Road	119414
Banashankari	162374
Kalyan Nagar	168621
New BEL Road	175885
Ulsoor	180907
Bellandur	206027
Bannerghatta Road	219077
Malleshwaram	238971
Koramangala 1st Block	251717
Residency Road	291954
Sarjapur Road	404746
Brigade Road	429620
MG Road	432111
Marathahalli	445201
Koramangala 6th Block	465111
Whitefield	466829
Jayanagar	488080
Koramangala 7th Block	495324
HSR	499720
Lavelle Road	506186
JP Nagar	586593
Church Street	594979
BTM	619376
Koramangala 4th Block	685156



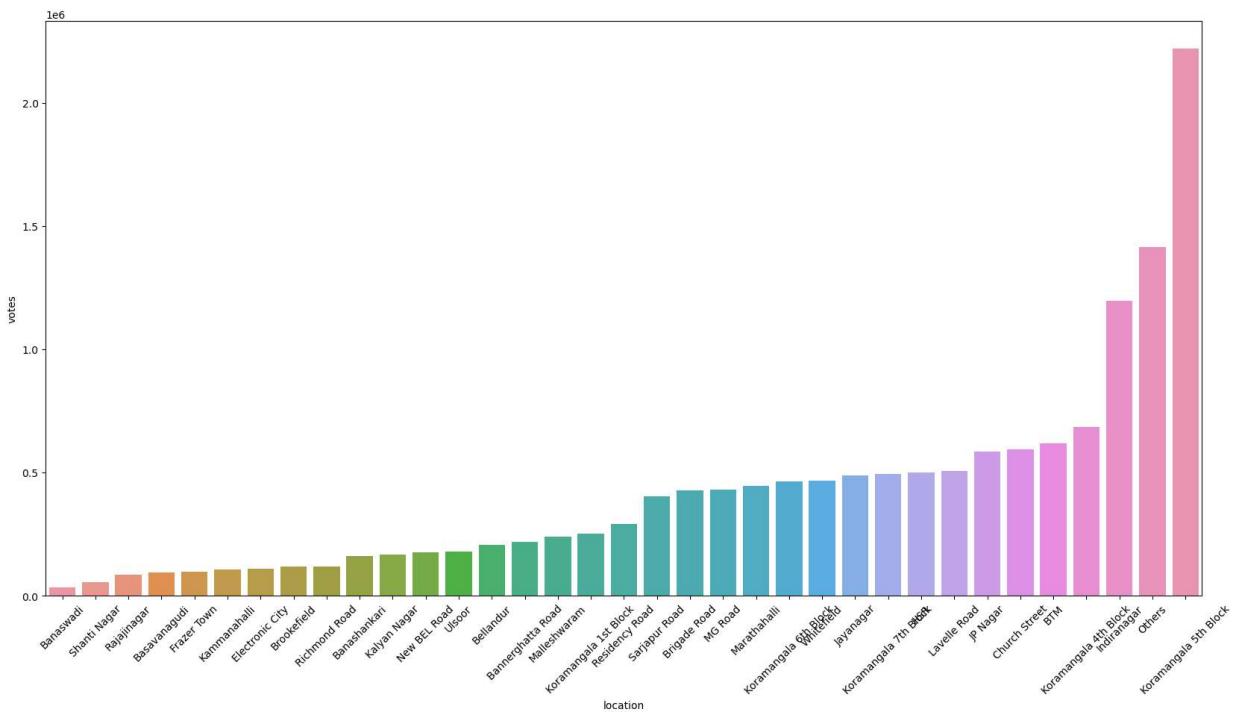
Location based on votes

```
In [196]: plt.figure(figsize=(20,10))
sns.barplot(df5.index,df5['votes'])
plt.xticks(rotation=45)
```

C:\Users\HP\Anaconda3\lib\site-packages\seaborn_decorators.py:36: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.

```
warnings.warn(
```

```
Out[196]: (array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16,
       17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33,
       34]),
 [Text(0, 0, 'Banaswadi'),
  Text(1, 0, 'Shanti Nagar'),
  Text(2, 0, 'Rajajinagar'),
  Text(3, 0, 'Basavanagudi'),
  Text(4, 0, 'Frazer Town'),
  Text(5, 0, 'Kammanahalli'),
  Text(6, 0, 'Electronic City'),
  Text(7, 0, 'Brookefield'),
  Text(8, 0, 'Richmond Road'),
  Text(9, 0, 'Bananashankari'),
  Text(10, 0, 'Kalyan Nagar'),
  Text(11, 0, 'New BEL Road'),
  Text(12, 0, 'Ulsoor'),
  Text(13, 0, 'Bellandur'),
  Text(14, 0, 'Bannerghatta Road'),
  Text(15, 0, 'Malleshwaram'),
  Text(16, 0, 'Koramangala 1st Block'),
  Text(17, 0, 'Residency Road'),
  Text(18, 0, 'Sarjapur Road'),
  Text(19, 0, 'Brigade Road'),
  Text(20, 0, 'MG Road'),
  Text(21, 0, 'Marathahalli'),
  Text(22, 0, 'Koramangala 6th Block'),
  Text(23, 0, 'Whitefield'),
  Text(24, 0, 'Jayanagar'),
  Text(25, 0, 'Koramangala 7th Block'),
  Text(26, 0, 'HSR'),
  Text(27, 0, 'Lavelle Road'),
  Text(28, 0, 'JP Nagar'),
  Text(29, 0, 'Church Street'),
  Text(30, 0, 'BTM'),
  Text(31, 0, 'Koramangala 4th Block'),
  Text(32, 0, 'Indiranagar'),
  Text(33, 0, 'Others'),
  Text(34, 0, 'Koramangala 5th Block')])
```



Cuisines based on voting

In [197...]

```
df6=df[['cuisines','votes']]
df6.drop_duplicates()
df7=df6.groupby(['cuisines'])['votes'].sum()
df7=df7.to_frame()
df7=df7.sort_values('votes',ascending=False)
df7.head()
```

Out[197]:

votes

cuisines

Others	12040433
North Indian	558654
North Indian, Chinese	259864
South Indian	161991
North Indian, Mughlai	103738

In [198...]

```
df7=df7.iloc[1:, :]
df7.head()
```

Out[198]:

votes

cuisines

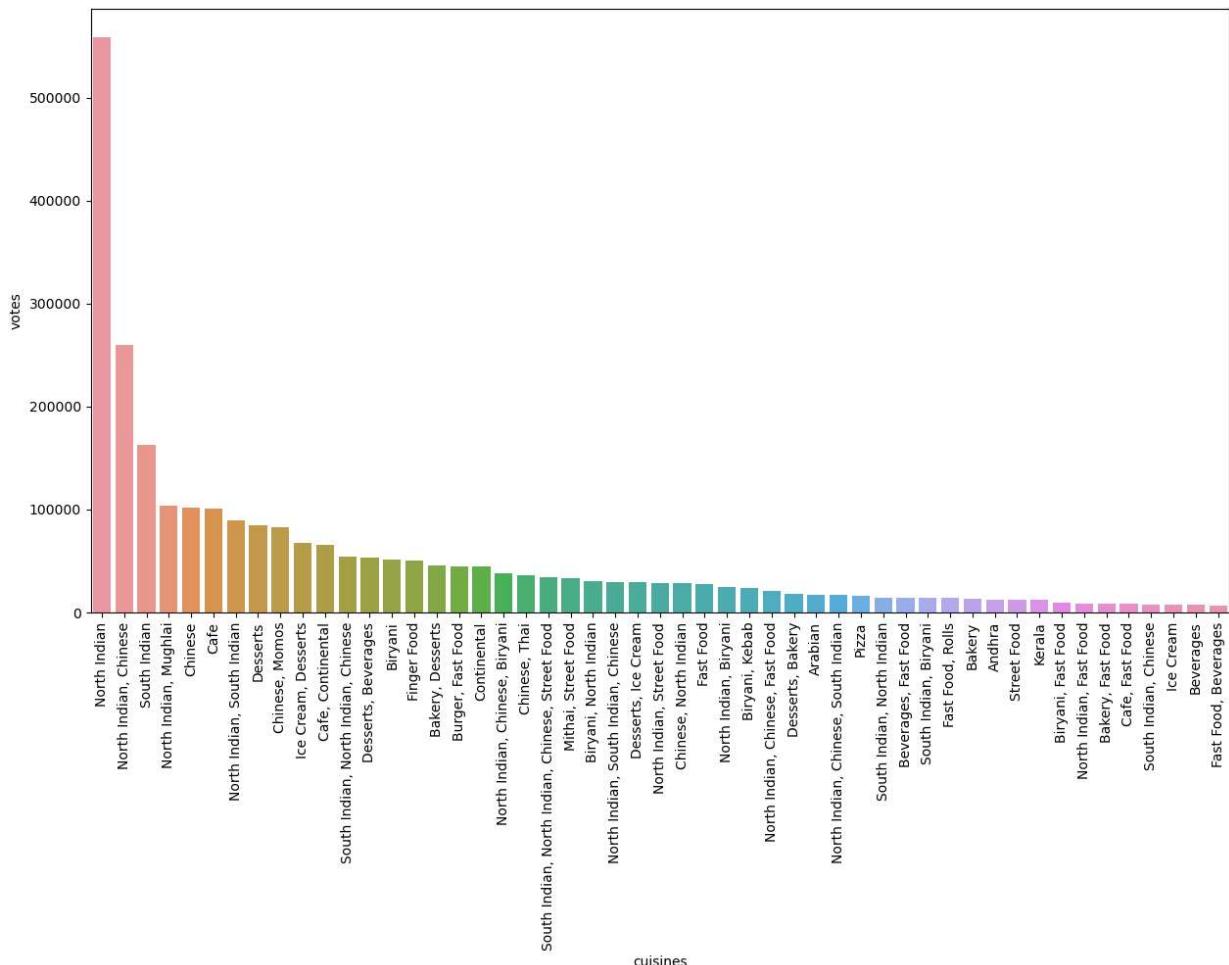
North Indian	558654
North Indian, Chinese	259864
South Indian	161991
North Indian, Mughlai	103738
Chinese	101736

In [200...]

```
plt.figure(figsize=(15,8))
sns.barplot(df7.index,df7['votes'])
plt.xticks(rotation=90)
```

C:\Users\HP\Anaconda3\lib\site-packages\seaborn_decorators.py:36: FutureWarning: Pass the following variables as keyword args: x, y. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
 warnings.warn(

```
Out[200]: (array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16,
       17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33,
       34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50]),
 [Text(0, 0, 'North Indian'),
  Text(1, 0, 'North Indian, Chinese'),
  Text(2, 0, 'South Indian'),
  Text(3, 0, 'North Indian, Mughlai'),
  Text(4, 0, 'Chinese'),
  Text(5, 0, 'Cafe'),
  Text(6, 0, 'North Indian, South Indian'),
  Text(7, 0, 'Desserts'),
  Text(8, 0, 'Chinese, Momos'),
  Text(9, 0, 'Ice Cream, Desserts'),
  Text(10, 0, 'Cafe, Continental'),
  Text(11, 0, 'South Indian, North Indian, Chinese'),
  Text(12, 0, 'Desserts, Beverages'),
  Text(13, 0, 'Biryani'),
  Text(14, 0, 'Finger Food'),
  Text(15, 0, 'Bakery, Desserts'),
  Text(16, 0, 'Burger, Fast Food'),
  Text(17, 0, 'Continental'),
  Text(18, 0, 'North Indian, Chinese, Biryani'),
  Text(19, 0, 'Chinese, Thai'),
  Text(20, 0, 'South Indian, North Indian, Chinese, Street Food'),
  Text(21, 0, 'Mithai, Street Food'),
  Text(22, 0, 'Biryani, North Indian'),
  Text(23, 0, 'North Indian, South Indian, Chinese'),
  Text(24, 0, 'Desserts, Ice Cream'),
  Text(25, 0, 'North Indian, Street Food'),
  Text(26, 0, 'Chinese, North Indian'),
  Text(27, 0, 'Fast Food'),
  Text(28, 0, 'North Indian, Biryani'),
  Text(29, 0, 'Biryani, Kebab'),
  Text(30, 0, 'North Indian, Chinese, Fast Food'),
  Text(31, 0, 'Desserts, Bakery'),
  Text(32, 0, 'Arabian'),
  Text(33, 0, 'North Indian, Chinese, South Indian'),
  Text(34, 0, 'Pizza'),
  Text(35, 0, 'South Indian, North Indian'),
  Text(36, 0, 'Beverages, Fast Food'),
  Text(37, 0, 'South Indian, Biryani'),
  Text(38, 0, 'Fast Food, Rolls'),
  Text(39, 0, 'Bakery'),
  Text(40, 0, 'Andhra'),
  Text(41, 0, 'Street Food'),
  Text(42, 0, 'Kerala'),
  Text(43, 0, 'Biryani, Fast Food'),
  Text(44, 0, 'North Indian, Fast Food'),
  Text(45, 0, 'Bakery, Fast Food'),
  Text(46, 0, 'Cafe, Fast Food'),
  Text(47, 0, 'South Indian, Chinese'),
  Text(48, 0, 'Ice Cream'),
  Text(49, 0, 'Beverages'),
  Text(50, 0, 'Fast Food, Beverages')])
```



In []: