

# Task4

## Task: Restaurant Chains

Identify if there are any restaurant chains present in the dataset.

```
In [2]: # import library
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sb
```

```
In [3]: df=pd.read_csv("C:\\Users\\abhis\\Downloads\\Dataset .csv")
df
```

Out[3]:

	Restaurant ID	Restaurant Name	Country Code	City	Address	Locality	Locality Verbose
0	6317637	Le Petit Souffle	162	Makati City	Third Floor, Century City Mall, Kalayaan Avenu...	Century City Mall, Poblacion, Makati City	Century City Mall, Poblacion Makati City Mak..
1	6304287	Izakaya Kikufuji	162	Makati City	Little Tokyo, 2277 Chino Roces Avenue, Legaspi...	Little Tokyo, Legaspi Village, Makati City	Little Tokyo Legaspi Village Makati City Ma..
2	6300002	Heat - Edsa Shangri-La	162	Mandaluyong City	Edsa Shangri-La, 1 Garden Way, Ortigas, Mandal...	Edsa Shangri-La, Ortigas, Mandaluyong City	Edsa Shangri-La Ortigas Mandaluyong City, Ma..
3	6318506	Ooma	162	Mandaluyong City	Third Floor, Mega Fashion Hall, SM Megamall, O...	SM Megamall, Ortigas, Mandaluyong City	SM Megamall Ortigas Mandaluyong City, Mandal..
4	6314302	Sambo Kojin	162	Mandaluyong City	Third Floor, Mega Atrium, SM Megamall, Ortigas...	SM Megamall, Ortigas, Mandaluyong City	SM Megamall Ortigas Mandaluyong City, Mandal..
...	...	...	...	...	...	...	..
9546	5915730	Namlı Gurme	208	İstanbul	Kemankeş Karamustafa Paşa Mahallesi, Rıhtım ...	Karaköy	Karaköy İstanbul
9547	5908749	Ceviz Aca	208	İstanbul	Koşuyolu Mahallesi, Muhittin İstiklal Caddesi	Koşuyolu	Koşuyolu İstanbul
9548	5915807	Huqqa	208	İstanbul	Kuruçeşme Mahallesi, Muallim Naci Caddesi, N...	Kuruçeşme	Kuruçeşme İstanbul
9549	5916112	Ak Kahve	208	İstanbul	Kuruçeşme Mahallesi, Muallim Naci Caddesi, N...	Kuruçeşme	Kuruçeşme İstanbul
9550	5927402	Walter's Coffee Roastery	208	İstanbul	Cafea Mahallesi, Bademaltı Sokak, No 21/B, ...	Moda	Moda İstanbul

9551 rows × 21 columns

```
In [4]: df.isnull().sum()
```

```
Out[4]: Restaurant ID      0
Restaurant Name      0
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
Is delivering now    0
Switch to order menu 0
Price range         0
Aggregate rating    0
Rating color        0
Rating text         0
Votes              0
dtype: int64
```

```
In [6]: rest_chains = df.groupby("Restaurant Name").size().reset_index(name="Chain Count")
rest_chains = rest_chains[rest_chains["Chain Count"] > 1]
```

```
In [7]: rest_chains
```

```
Out[7]:
```

	Restaurant Name	Chain Count
<b>7</b>	10 Downing Street	2
<b>27</b>	221 B Baker Street	3
<b>44</b>	34 Parkstreet Lane	2
<b>45</b>	34, Chowringhee Lane	12
<b>59</b>	4700BC Popcorn	2
...	...	...
<b>7383</b>	Zaika	4
<b>7389</b>	Zaika Kathi Rolls	2
<b>7417</b>	Zizo	3
<b>7424</b>	Zooby's Kitchen	2
<b>7432</b>	bu💎💎no	2

734 rows × 2 columns

```
In [8]: rest_chains = rest_chains.sort_values(by="Chain Count", ascending=False)
```

```
In [9]: rest_chains
```

Out[9]:

	Restaurant Name	Chain Count
--	-----------------	-------------

<b>1098</b>	Cafe Coffee Day	83
<b>2098</b>	Domino's Pizza	79
<b>6106</b>	Subway	63
<b>2716</b>	Green Chick Chop	51
<b>4077</b>	McDonald's	48
...	...	...
<b>2770</b>	Gullu's	2
<b>2764</b>	Gulab	2
<b>2746</b>	Grover Sweets	2
<b>2739</b>	Grillz	2
<b>7432</b>	bu❖❖no	2

734 rows × 2 columns

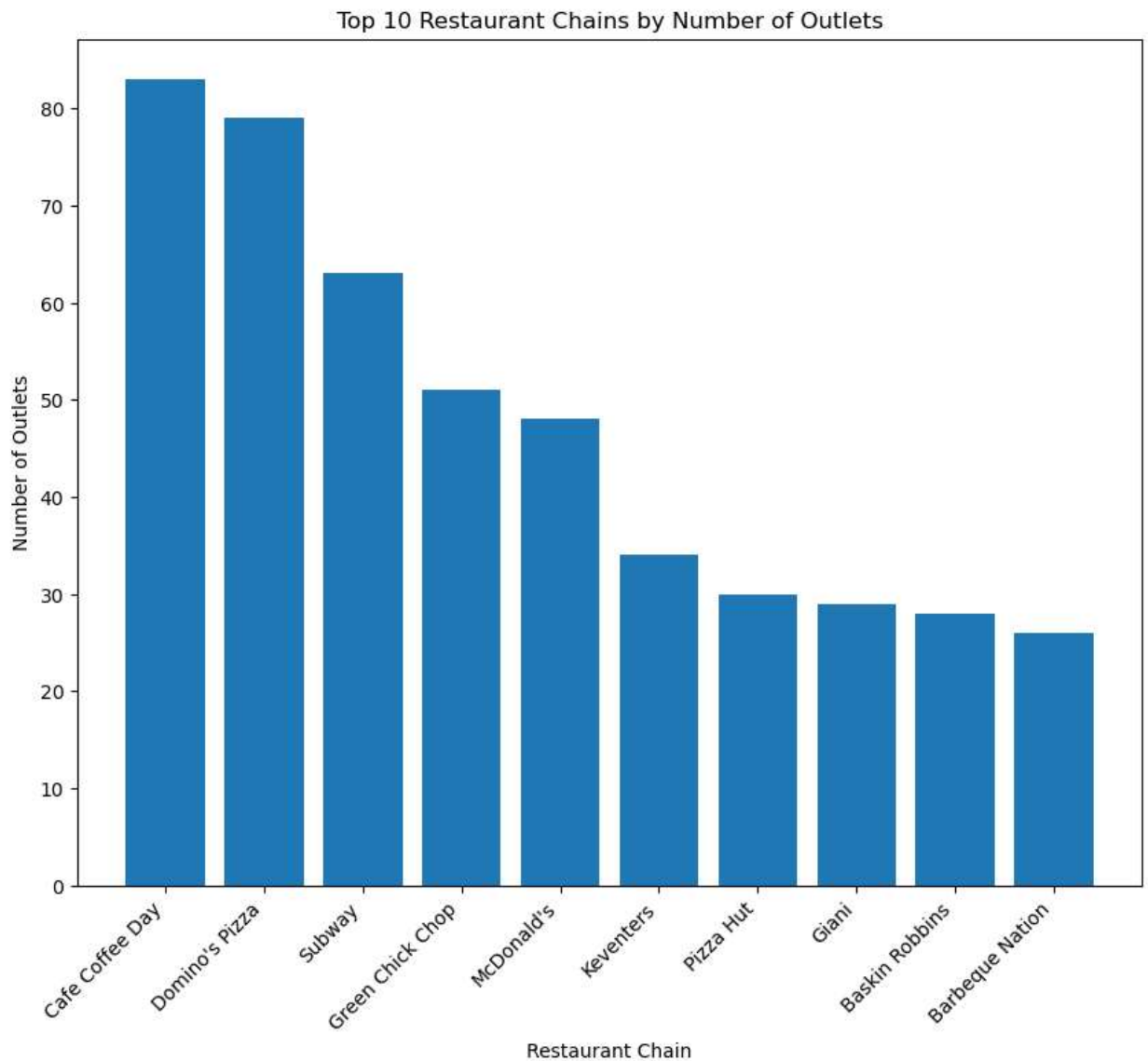
```
In [10]: top_rest_chain=rest_chains.head(10)
top_rest_chain
```

Out[10]:

	Restaurant Name	Chain Count
--	-----------------	-------------

<b>1098</b>	Cafe Coffee Day	83
<b>2098</b>	Domino's Pizza	79
<b>6106</b>	Subway	63
<b>2716</b>	Green Chick Chop	51
<b>4077</b>	McDonald's	48
<b>3478</b>	Keventers	34
<b>4961</b>	Pizza Hut	30
<b>2619</b>	Giani	29
<b>680</b>	Baskin Robbins	28
<b>663</b>	Barbeque Nation	26

```
In [11]: plt.figure(figsize=(10, 8))
plt.bar(top_rest_chain["Restaurant Name"], top_rest_chain["Chain Count"])
plt.xticks(rotation=45, ha='right')
plt.xlabel("Restaurant Chain")
plt.ylabel("Number of Outlets")
plt.title("Top 10 Restaurant Chains by Number of Outlets")
plt.show()
```



```
In [12]: chain_ratings = df.groupby("Restaurant Name")["Aggregate rating"].mean().reset_index(r  
chain_votes = df.groupby("Restaurant Name")["Votes"].sum().reset_index(name="Total Vot
```

## 2. Analyze the ratings and popularity of different restaurant chains.

```
In [13]: chain_ratings
```

Out[13]:

	Restaurant Name	Average Rating
0	#45	3.6
1	#Dilliwaala6	3.7
2	#InstaFreeze	0.0
3	#OFF Campus	3.7
4	#Urban Caf	3.3
...	...	...
7441	t Lounge by Dilmah	3.6
7442	tashas	4.1
7443	wagamama	3.7
7444	{Niche} - Cafe & Bar	4.1
7445	ukuraa Sofrasl	4.4

7446 rows × 2 columns

In [14]: chain\_votes

Out[14]:

	Restaurant Name	Total Votes
0	#45	209
1	#Dilliwaala6	124
2	#InstaFreeze	2
3	#OFF Campus	216
4	#Urban Caf	49
...	...	...
7441	t Lounge by Dilmah	34
7442	tashas	374
7443	wagamama	131
7444	{Niche} - Cafe & Bar	492
7445	ukuraa Sofrasl	296

7446 rows × 2 columns

In [15]: chain\_anly=pd.merge(chain\_ratings, chain\_votes, on="Restaurant Name")

In [16]: chain\_anly

Out[16]:

	Restaurant Name	Average Rating	Total Votes
0	#45	3.6	209
1	#Dilliwaala6	3.7	124
2	#InstaFreeze	0.0	2
3	#OFF Campus	3.7	216
4	#Urban Caf	3.3	49
...	...	...	...
7441	t Lounge by Dilmah	3.6	34
7442	tashas	4.1	374
7443	wagamama	3.7	131
7444	{Niche} - Cafe & Bar	4.1	492
7445	ukura a Sofrasl	4.4	296

7446 rows × 3 columns

In [17]: `chain_anly_sort=chain_anly.sort_values(by="Average Rating", ascending=False)`In [18]: `chain_anly_sort`

Out[18]:

	Restaurant Name	Average Rating	Total Votes
5322	Restaurant Mosaic @ The Orient	4.9	85
4177	Ministry of Crab	4.9	203
4135	Miann	4.9	281
5757	Shorts Burger and Shine	4.9	820
4165	Milse	4.9	754
...	...	...	...
1105	Cafe Corner	0.0	3
4905	Pheva Tandooris	0.0	0
4913	Pick & Carry	0.0	2
1096	Cafe Brownie	0.0	3
2292	Famous Parantha and Poori Sabzi	0.0	0

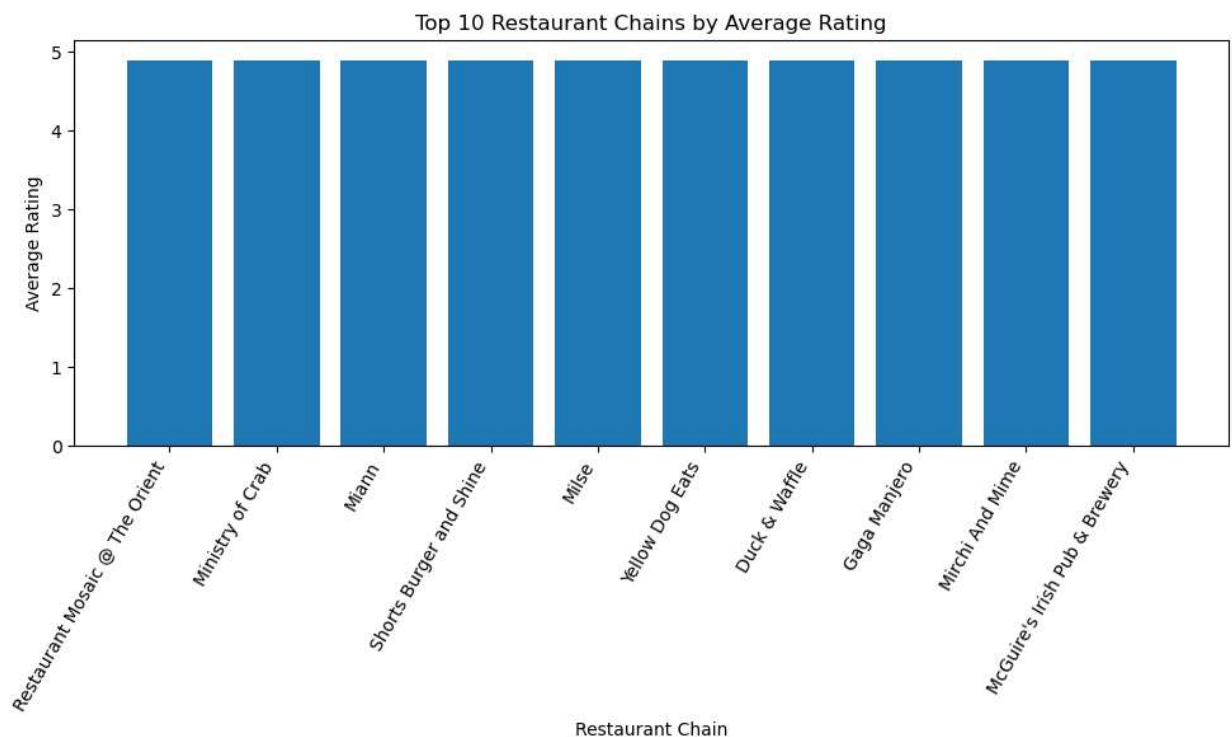
7446 rows × 3 columns

In [19]: `chain_anly_sort.head(10)`

Out[19]:

	Restaurant Name	Average Rating	Total Votes
5322	Restaurant Mosaic @ The Orient	4.9	85
4177	Ministry of Crab	4.9	203
4135	Miann	4.9	281
5757	Shorts Burger and Shine	4.9	820
4165	Milse	4.9	754
7339	Yellow Dog Eats	4.9	1252
2133	Duck & Waffle	4.9	706
2559	Gaga Manjero	4.9	95
4182	Mirchi And Mime	4.9	3244
4078	McGuire's Irish Pub & Brewery	4.9	2238

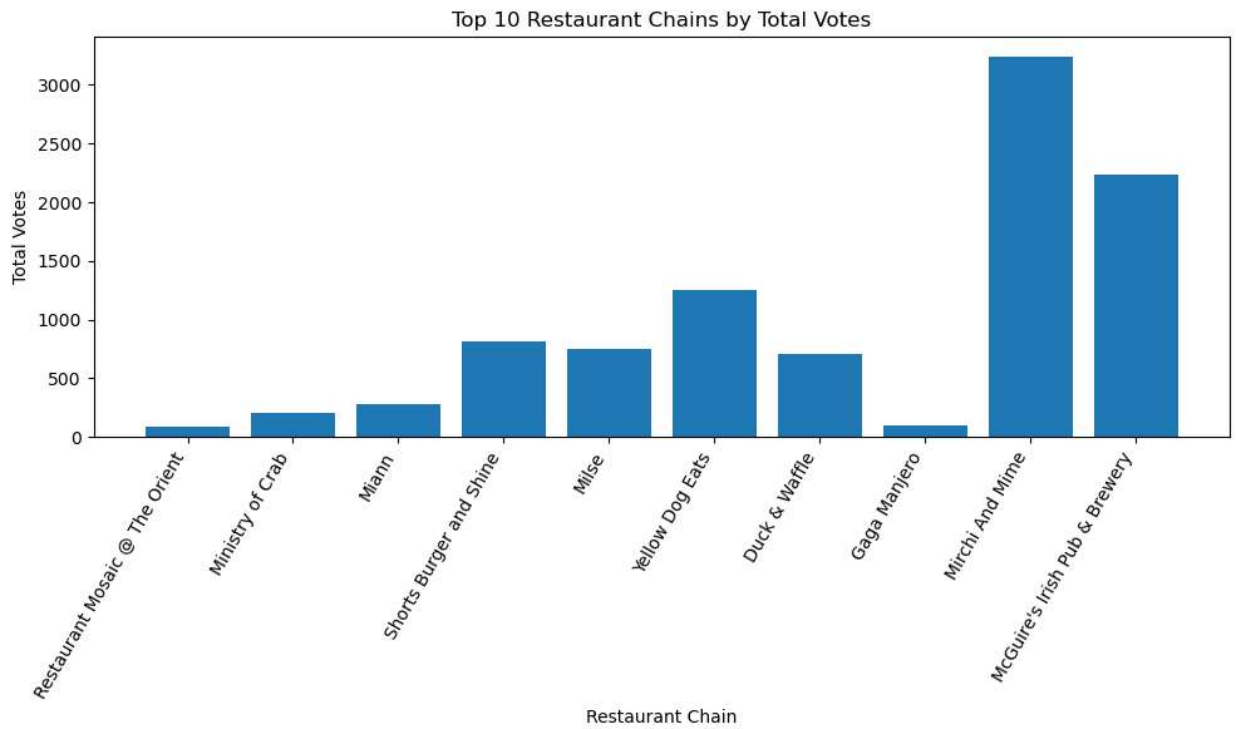
```
In [24]: plt.figure(figsize=(10, 6))
plt.bar(chain_only_sort.head(10)["Restaurant Name"], chain_only_sort.head(10)["Average Rating"])
plt.xticks(rotation=60, ha='right')
plt.xlabel("Restaurant Chain")
plt.ylabel("Average Rating")
plt.title("Top 10 Restaurant Chains by Average Rating")
plt.tight_layout()
plt.show()
```



```
In [23]: plt.figure(figsize=(10, 6))
plt.bar(chain_only_sort.head(10)["Restaurant Name"], chain_only_sort.head(10)["Total Votes"])
plt.xticks(rotation=60, ha='right')
plt.xlabel("Restaurant Chain")
plt.ylabel("Total Votes")
plt.title("Top 10 Restaurant Chains by Total Votes")
```



```
plt.tight_layout()  
plt.show()
```



In [ ]: