Financial Analytics Project

By Faiz Khan

First We have to import Libraries

In [1]:
```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import plotly.express as px
import warnings
warnings.filterwarnings("ignore")
```

Now we have to load Dataset

```
In [2]: df=pd.read_csv("Financial Analytics data.csv")

In [3]: df
```

Out[3]:

	S.No.	Name	Mar Cap - Crore	Sales Qtr - Crore	Unnamed: 4
0	1	Reliance Inds.	583436.72	99810.00	NaN
1	2	TCS	563709.84	30904.00	NaN
2	3	HDFC Bank	482953.59	20581.27	NaN
3	4	ITC	320985.27	9772.02	NaN
4	5	H D F C	289497.37	16840.51	NaN
...	...	...	...	...	...
483	496	Lak. Vilas Bank	3029.57	790.17	NaN
484	497	NOCIL	3026.26	249.27	NaN
485	498	Orient Cement	3024.32	511.53	NaN
486	499	Natl.Fertilizer	3017.07	2840.75	NaN
487	500	L T Foods	NaN	NaN	NaN

488 rows × 5 columns

Basic Python Functions

click to scroll output; double click to hide

In [4]: df.describe()

Out[4]:

	S.No.	Mar Cap - Crore	Sales Qtr - Crore	Unnamed: 4
count	488.000000	479.000000	365.000000	94.000000
mean	251.508197	28043.857119	4395.976849	1523.870106
std	145.884078	59464.615831	11092.206185	1800.008836
min	1.000000	3017.070000	47.240000	0.000000
25%	122.750000	4843.575000	593.740000	407.167500
50%	252.500000	9885.050000	1278.300000	702.325000
75%	378.250000	23549.900000	2840.750000	2234.815000
max	500.000000	583436.720000	110666.930000	7757.060000

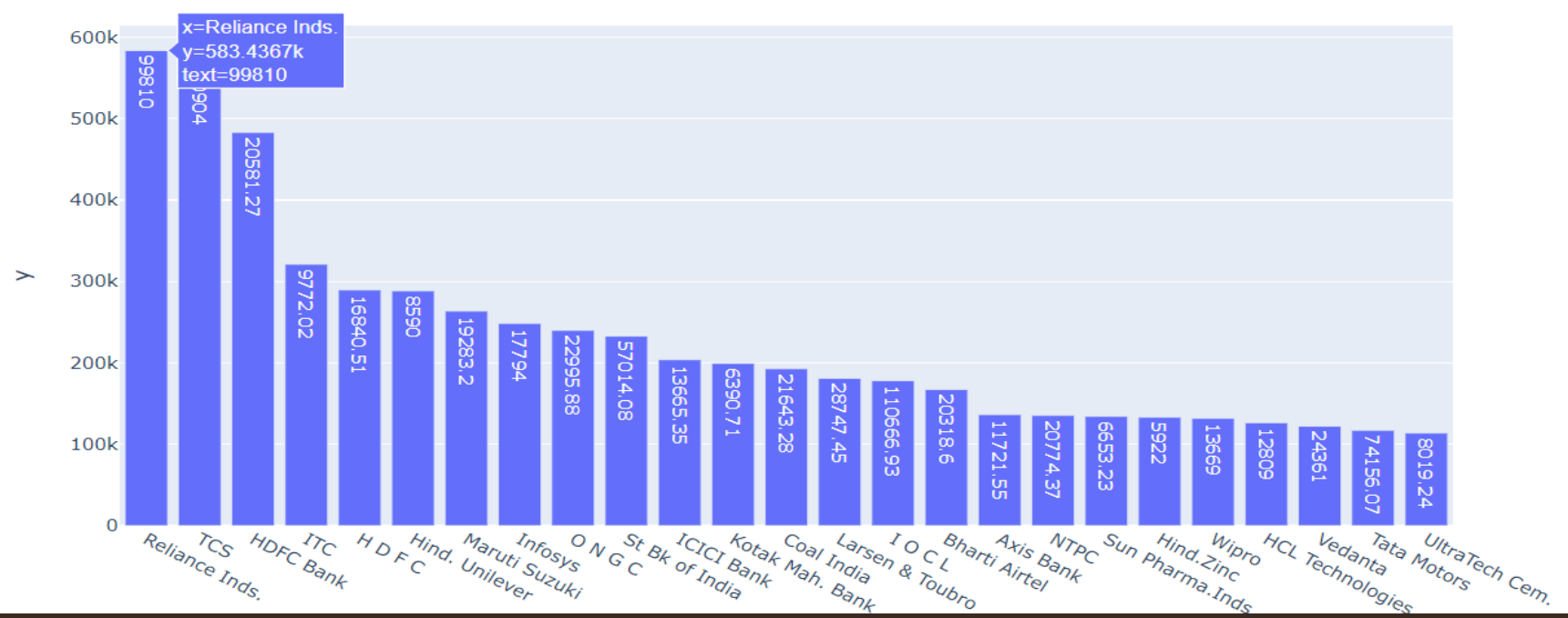
```
In [5]: df.rename(columns={"Unnamed: 4":"Column_4","Mar Cap - Crore":"market_capitalisation_in_crore","Sales Qtr - Crore":"quaterly_sales

In [6]: df.Column_4.value_counts()

Out[6]: 2149.36    1
        162.17     1
        506.06     1
        390.16     1
        581.94     1
                  ..
        1965.77    1
        2779.40    1
        6509.60    1
        4336.11    1
        626.80     1
        Name: Column_4, Length: 94, dtype: int64

In [7]: df.isna().sum()

Out[7]: S.No.                          0
        Name                           0
        market_capitalisation_in_crore     9
        quaterly_sales_in_crore          123
        Column_4                         394
        dtype: int64

In [8]: df.Column_4.mean()

Out[8]: 1523.8701063829787
```

Handling Missing Values

```
In [11]: df.isna().sum()

Out[11]: S.No.                            0
         Name                             0
         market_capitalisation_in_crore   9
         quaterly_sales_in_crore        123
         Column_4                       394
         dtype: int64

In [12]: df.market_capitalisation_in_crore.median()

Out[12]: 9885.05

In [13]: df.market_capitalisation_in_crore=df.market_capitalisation_in_crore.fillna(df.market_capitalisation_in_crore.median())

In [14]: df.quaterly_sales_in_crore=df.quaterly_sales_in_crore.fillna(df.quaterly_sales_in_crore.median())

In [15]: df.Column_4=df.Column_4.fillna("Unknown")

In [16]: df.isna().sum()

Out[16]: S.No.                           0
         Name                            0
         market_capitalisation_in_crore  0
         quaterly_sales_in_crore         0
         Column_4                        0
         dtype: int64
```

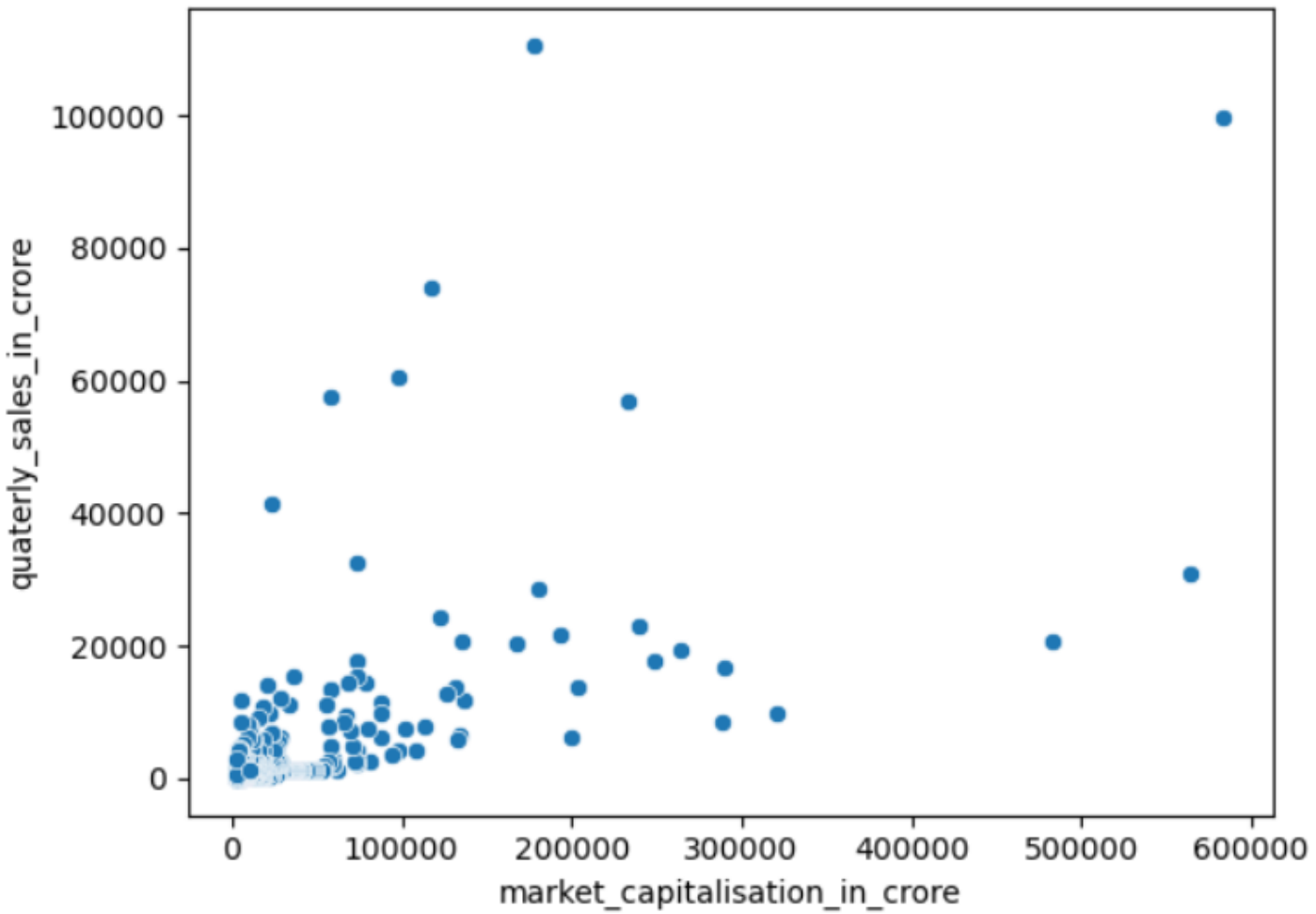
Visualisation With Python

```
In [17]: px.bar(x=df.Name.head(25),y=df.market_capitalisation_in_crore.head(25),text=df.quaterly_sales_in_crore.head(25))
```



```
[45]: sns.scatterplot(x=df.market_capitalisation_in_crore,y=df.quaterly_sales_in_crore)
```

```
t[45]: <Axes: xlabel='market_capitalisation_in_crore', ylabel='quaterly_sales_in_crore'>
```



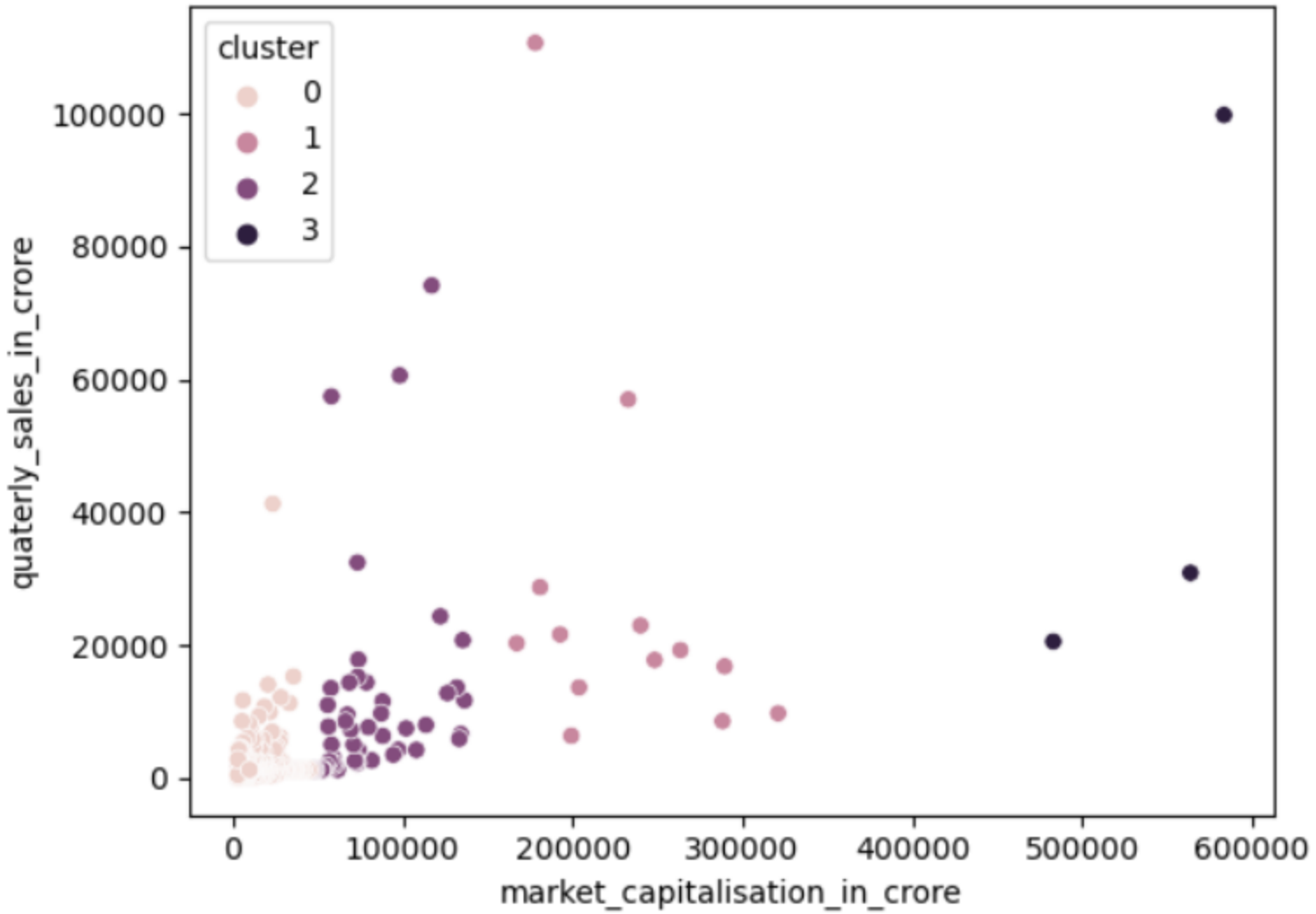
Applying Ml Algorithm for distributing Companies according to Competition

```
In [19]: from sklearn import cluster

In [20]: kmean=cluster.KMeans(n_clusters=4)

In [21]: kmean

Out[21]:
         ▾ KMeans
         KMeans(n_clusters=4)

In [22]: cluster=kmean.fit_predict(df[["market_capitalisation_in_crore","quaterly_sales_in_crore"]])

In [23]: cluster

Out[23]: array([3, 3, 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2,
                2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
                2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
                2, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
```

In [24]:
```
df["cluster"]=cluster
```

In [25]:
```
sns.scatterplot(x=df.market_capitalisation_in_crore,y=df.quaterly_sales_in_crore,hue=df.cluster)
```

Out[25]: <Axes: xlabel='market_capitalisation_in_crore', ylabel='quaterly_sales_in_crore'>



Tableau'Dashboard for Financial Analtics Dataset

Tableau Public - Project 2

File Data Worksheet Dashboard Story Analysis Map Format Server Window Help

Standard

Show Me

Dashboard Layout

Default
Phone

Device Preview

Size
Fit to height: width: 1420

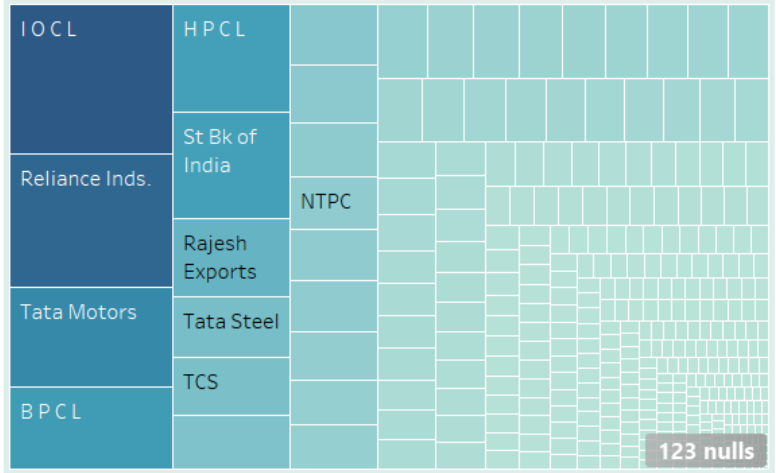
Sheets
Sheet 1
Sheet 2
Sheet 3

Objects
Horizontal Container
Vertical Container
Text
Extension
Ask Data
Data Story
Image

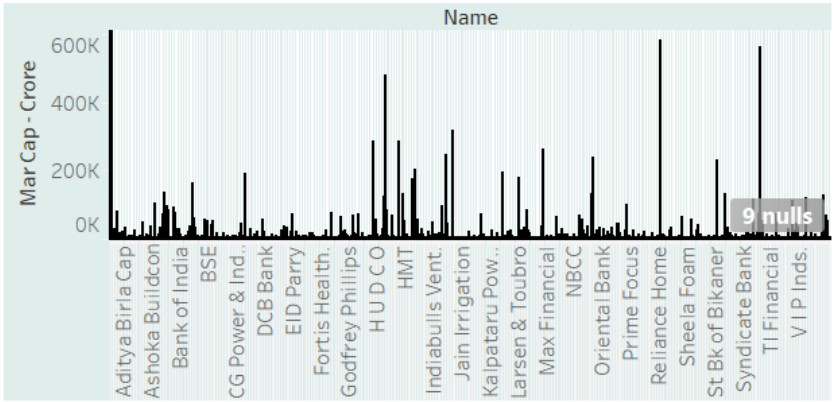
Tiled Floating

Show dashboard title

Company's Quaterly Sales In Crore

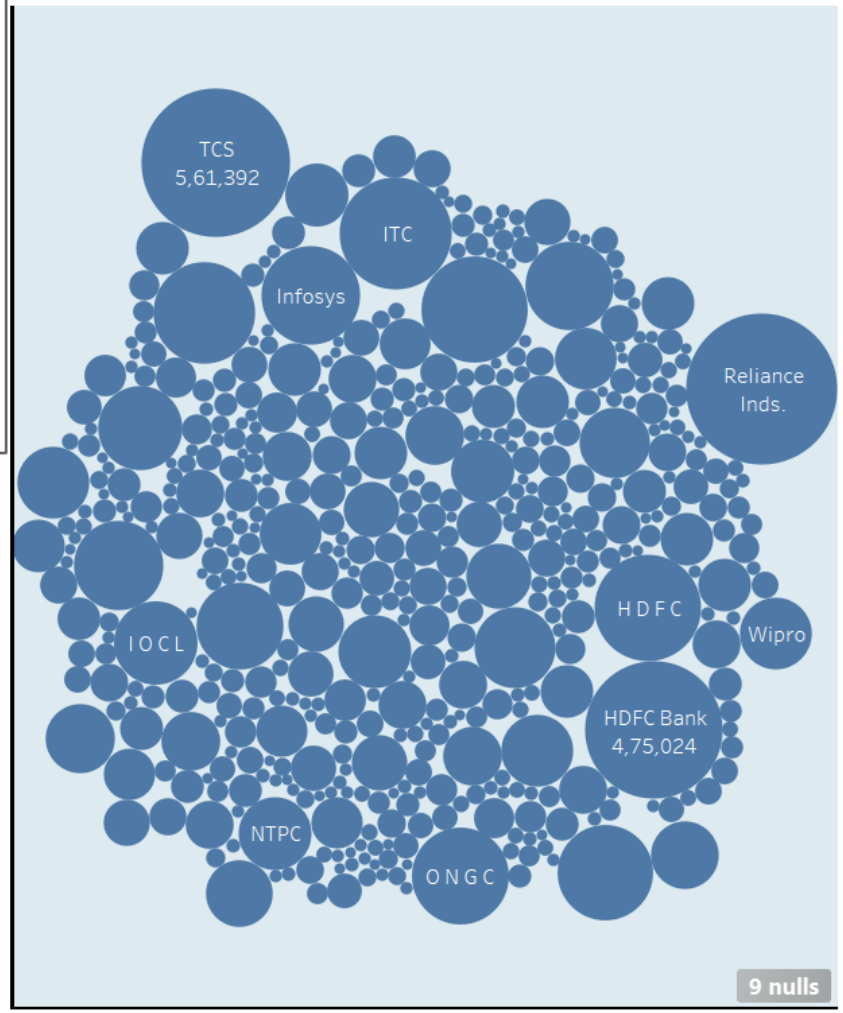


Comapnies with Their Market Capital In Crore



Top Companies with their Market Capital and Quaterly sales in Crore

Sales Qtr - Crore
47 110,667



Important Points

- LOCL has highest sales of Rs 110667 crores and then comes Reliance Industries and Tata Motors with sales of Rs 99801 crores and Rs 74156 crores.
- Reliance Industries has largest Market Capital of Rs 583437 crores and then comes TCS and HDFC Bank with Market Capital of Rs 561392 and Rs 475024.

Basically we can say that LOCL ,Reliance Industries , Tata Motors and HDFC Bank are top companies and they all are competitors of each other.