Task 3

Task: Price Range Distribution

Create a histogram or bar chart to visualize the distribution of price ranges among the restaurants

In [1]:
```
# import library
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sb
```

In [2]:
```
df=pd.read_csv("C:\\Users\\abhis\\Downloads\\Dataset .csv")
df
```

Out[2]:

	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	Naml‌ Gurme	208	��stanbul	Kemanke�� Karamustafa Pa��a Mahallesi, Rlhtlm ...	Karak�_y	Karak�_y ��stanbu
9547	5908749	Ceviz A��acl	208	��stanbul	Ko��uyolu Mahallesi, Muhittin ��st�_nda�� Cadd...	Ko��uyolu	Ko��uyolu ��stanbu
9548	5915807	Huqqa	208	��stanbul	Kuru�_e��me Mahallesi, Muallim Naci Caddesi, N...	Kuru�_e��me	Kuru�_e��me ��stanbu
9549	5916112	A���k Kahve	208	��stanbul	Kuru�_e��me Mahallesi, Muallim Naci Caddesi, N...	Kuru�_e��me	Kuru�_e��me ��stanbu
9550	5927402	Walter's Coffee Roastery	208	��stanbul	Cafea��a Mahallesi, Bademaltl Sokak, No 21/B, ...	Moda	Moda ��stanbu

9551 rows × 21 columns

In [3]:
```
df.isnull().sum()
```

Out[3]:
```
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 [40]:
```
#price range column have no null value
price_rest=df.groupby(by='Restaurant Name')['Price range'].mean()
price_rest
```

Out[40]:
```
Restaurant Name
#45                    2.0
#Dilliwaala6           3.0
#InstaFreeze           1.0
#OFF Campus            2.0
#Urban Caf��            2.0
                      ...
t Lounge by Dilmah     2.0
tashas                 4.0
wagamama               4.0
{Niche} - Cafe & Bar   3.0
�ukura��a Sofras\       3.0
Name: Price range, Length: 7446, dtype: float64
```

In [41]:
```
price_rest.value_counts()
```

Out[41]:
```
1.000000    3453
2.000000    2204
3.000000    1129
4.000000     523
1.500000      44
2.500000      20
3.500000      14
1.333333       8
2.333333       4
3.666667       4
3.333333       3
1.250000       3
2.833333       2
3.250000       2
1.750000       2
1.666667       2
1.200000       2
1.375000       2
2.750000       1
2.550000       1
2.766667       1
3.600000       1
1.222222       1
1.125000       1
3.200000       1
2.600000       1
1.571429       1
1.157895       1
1.800000       1
1.979167       1
2.571429       1
2.857143       1
1.928571       1
1.090909       1
1.083333       1
2.384615       1
2.055556       1
3.750000       1
1.875000       1
1.285714       1
3.384615       1
2.888889       1
2.777778       1
Name: Price range, dtype: int64
```

In [43]:
```
price_rest_sort=price_rest.sort_values()
price_rest_sort
```

Out[43]:
```
Restaurant Name
Laxmi Food Corner        1.0
Grover Burfee & Cakes    1.0
Grover Dhaba             1.0
Grover Eating Point      1.0
Grover Mithaivala        1.0
                        ...
Downtown Grill           4.0
Kinoshita                4.0
Carnival By Tresind      4.0
Draft Gastro Pub         4.0
Restaurant Andre         4.0
Name: Price range, Length: 7446, dtype: float64
```

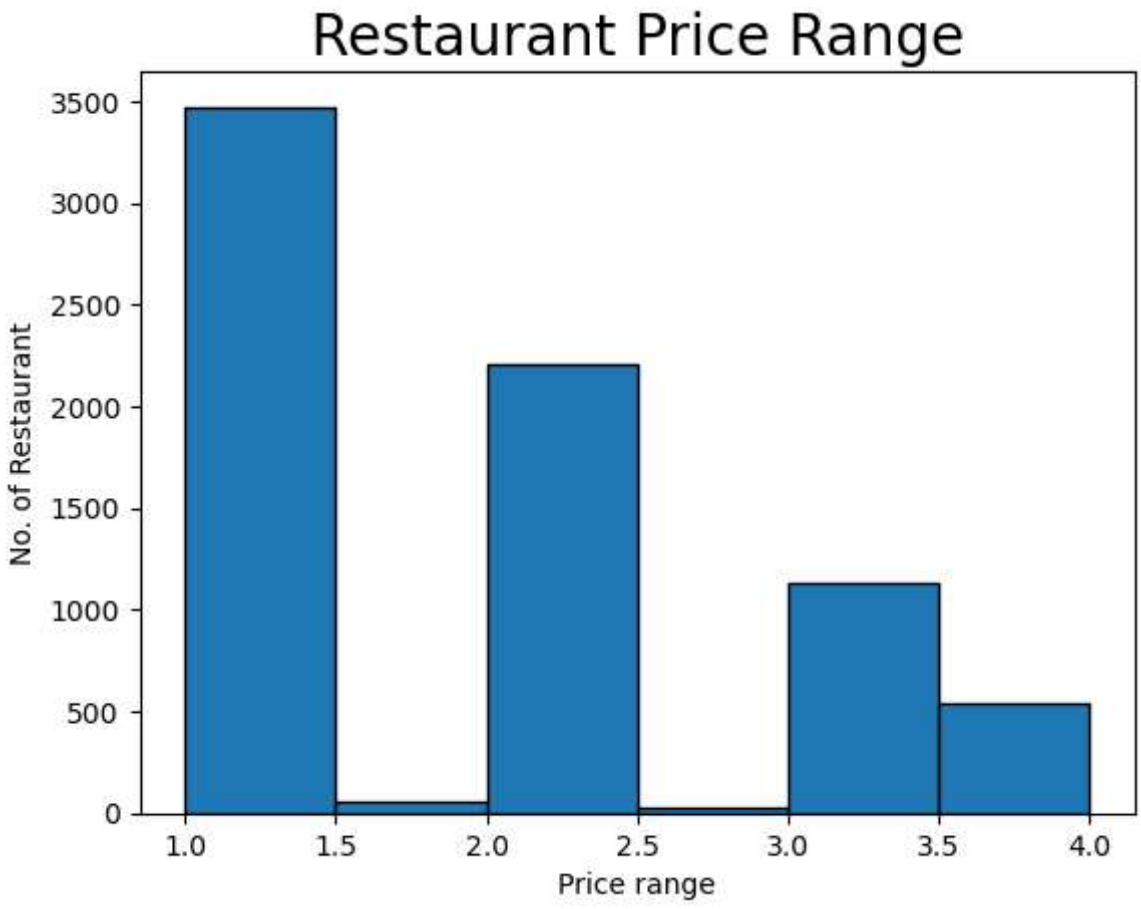
In [44]:
```
x=price_rest_sort.index
x
```

Out[44]:
```
Index(['Laxmi Food Corner', 'Grover Burfee & Cakes', 'Grover Dhaba',
       'Grover Eating Point', 'Grover Mithaivala', 'Grover Sweets',
       'Grover Sweets & Bakers', 'Grover Sweets Rajouri Wala',
       'Grover's - The Baker Shop', 'Samarpan Fast Food',
       ...
       'Dragonfly', 'Tresind - Nassima Royal Hotel', 'Carbon Bistro', 'Tribe',
       'Downtown Kitchen & Bar - Courtyard by Marriott', 'Downtown Grill',
       'Kinoshita', 'Carnival By Tresind', 'Draft Gastro Pub',
       'Restaurant Andre'],
      dtype='object', name='Restaurant Name', length=7446)
```

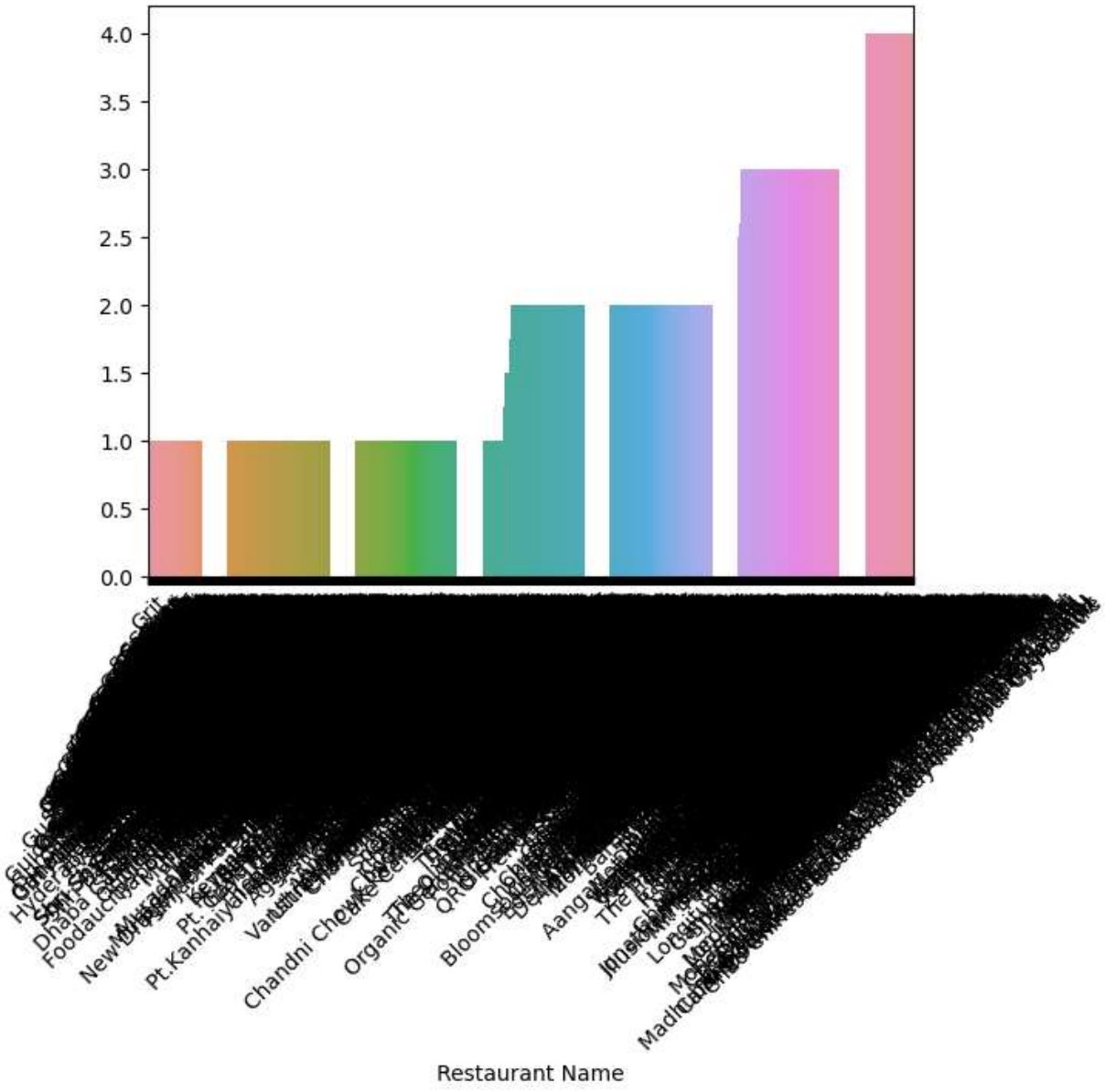
In [45]:
```
y=price_rest_sort.values
y
```

Out[45]:
```
array([1., 1., 1., ..., 4., 4., 4.])
```

In [46]:
```
plt.hist(x=price_rest_sort,bins=[1,1.5,2,2.5,3,3.5,4],edgecolor='k')
plt.xticks()
plt.xlabel('Price range', size=10)
plt.ylabel('No. of Restaurant', size=10)
plt.title('Restaurant Price Range', size=20)
plt.show()
```



In [81]:
```
sb.barplot(x=price_rest_sort.index,y=price_rest_sort.values)
plt.xticks(rotation=45)
plt.show()
```



Calculate the percentage of restaurants in each price range category

In [77]:
```
price_rest_per=df.groupby(by='Price range')['Restaurant Name'].value_counts()
price_rest_per
```

Out[77]:
```
Price range  Restaurant Name
1            Cafe Coffee Day                 83
             Green Chick Chop                51
             Keventers                       34
             Giani                           29
             Baskin Robbins                  28
                                             ..
4            Zolocrust - Hotel Clarks Amer    1
             Zune - Piccadily Hotel           1
             sketch Gallery                   1
             tashas                           1
             wagamama                         1
Name: Restaurant Name, Length: 7599, dtype: int64
```

In [83]:
```
price_rest_per.sum()
```

Out[83]:
```
9551
```

Total Price range values is 9551

In [94]:
```
for i in range(1,5):
    price_rest_peri=(df['Price range']==i).sum()/price_rest_per.sum()*100
    price_rest_peri
    print('percentage price range',i,price_rest_peri)
```

```
percentage price range 1 46.52915925034028
percentage price range 2 32.59344571249084
percentage price range 3 14.741911841691968
percentage price range 4 6.135483195476914
```

In [ ]: