1-task-3-price-range-distribution

September 6, 2024

1 Level 1 Task 3. Price Range Distribution

1.1 Import necessary libraries

[53]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

1.2 read csv file

[54]:
```
df = pd.read_csv("D:\Data Analytics\Internships\Cognifyz\Dataset .csv")
df.head(3)
```

[54]:
```
   Restaurant ID         Restaurant Name  Country Code              City  \
0        6317637        Le Petit Souffle           162       Makati City
1        6304287        Izakaya Kikufuji           162       Makati City
2        6300002  Heat - Edsa Shangri-La           162  Mandaluyong City

                                          Address  \
0  Third Floor, Century City Mall, Kalayaan Avenu…
1  Little Tokyo, 2277 Chino Roces Avenue, Legaspi…
2  Edsa Shangri-La, 1 Garden Way, Ortigas, Mandal…

                                  Locality  \
0   Century City Mall, Poblacion, Makati City
1  Little Tokyo, Legaspi Village, Makati City
2  Edsa Shangri-La, Ortigas, Mandaluyong City

                                  Locality Verbose   Longitude   Latitude  \
0  Century City Mall, Poblacion, Makati City, Mak…  121.027535  14.565443
1  Little Tokyo, Legaspi Village, Makati City, Ma…  121.014101  14.553708
2  Edsa Shangri-La, Ortigas, Mandaluyong City, Ma…  121.056831  14.581404

                          Cuisines  …          Currency Has Table booking  \
0       French, Japanese, Desserts  …  Botswana Pula(P)               Yes
1                         Japanese  …  Botswana Pula(P)               Yes
2  Seafood, Asian, Filipino, Indian  …  Botswana Pula(P)               Yes
```

```
  Has Online delivery Is delivering now Switch to order menu Price range  \
0                  No                No                    No           3
1                  No                No                    No           3
2                  No                No                    No           4

   Aggregate rating  Rating color Rating text Votes
0               4.8    Dark Green   Excellent   314
1               4.5    Dark Green   Excellent   591
2               4.4         Green   Very Good   270

[3 rows x 21 columns]
```

[74]:
```
df.columns
```

[74]:
```
Index(['Restaurant ID', 'Restaurant Name', 'Country Code', 'City', 'Address',
       'Locality', 'Locality Verbose', 'Longitude', 'Latitude', 'Cuisines',
       'Average Cost for two', 'Currency', 'Has Table booking',
       'Has Online delivery', 'Is delivering now', 'Switch to order menu',
       'Price range', 'Aggregate rating', 'Rating color', 'Rating text',
       'Votes'],
      dtype='object')
```

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

[75]:
```
df['Price range'].unique()
```

[75]:
```
array([3, 4, 2, 1], dtype=int64)
```

[76]:
```
visual = df.groupby('Price range')['Restaurant ID'].count()
visual
```

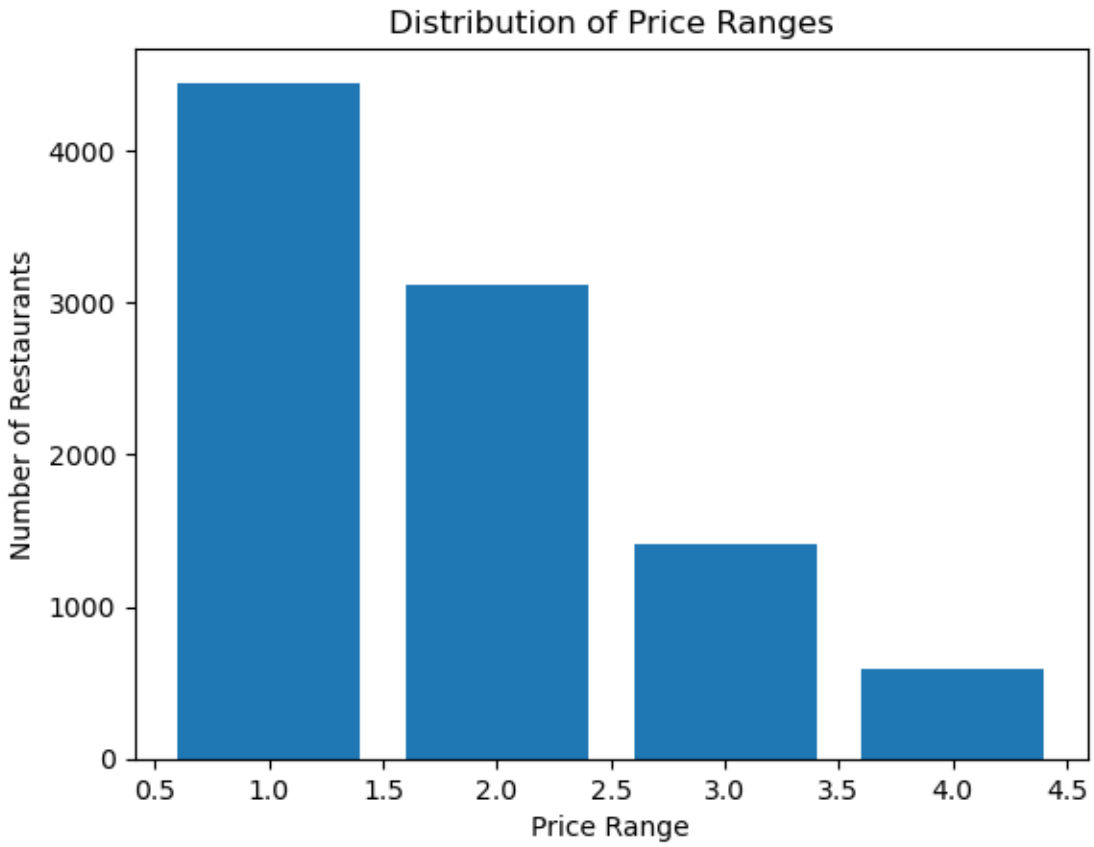
[76]:
```
Price range
1    4444
2    3113
3    1408
4     586
Name: Restaurant ID, dtype: int64
```

[77]:
```
visual = visual.reset_index()
visual
```

[77]:
```
   Price range  Restaurant ID
0            1           4444
1            2           3113
2            3           1408
```

```
3              4             586
```

[78]:
```
plt.bar(visual['Price range'], visual['Restaurant ID'])
plt.xlabel("Price Range")
plt.ylabel('Number of Restaurants')
plt.title("Distribution of Price Ranges")
plt.show()
```



1.4 2. Calculate the percentage of restaurants in each price range category.

[79]:
```
visual['Percentage'] = (visual['Restaurant ID'] / len(df)) * 100
visual
```

[79]:

	Price range	Restaurant ID	Percentage
0	1	4444	46.529159
1	2	3113	32.593446
2	3	1408	14.741912
3	4	586	6.135483

[82]:
```
plt.bar(visual['Price range'], visual['Percentage'])
plt.xlabel('Price Range')
plt.ylabel('Percentage of restaurants')
plt.title('Price Range percentage')
plt.show()
```