In [1]:

```
'''LEVEL 03 - TASK 01'''

'''Task: Predictive Modeling

-->Build a regression model to predict the
aggregate rating of a restaurant based on
available features.
Split the dataset into training and testing sets
and evaluate the model's performance using
appropriate metrics.

-->Experiment with different algorithms (e.g.,
linear regression, decision trees, random
forest) and compare their performance.'''
```

In [ ]:

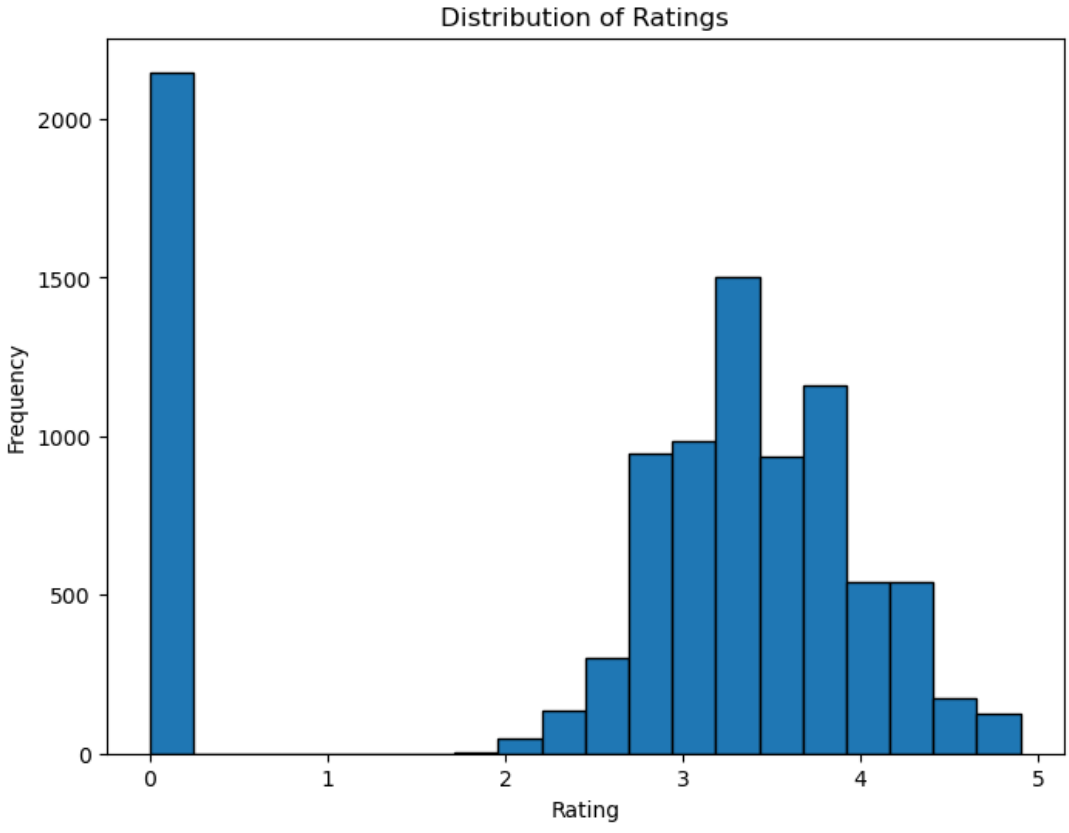
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

data = pd.read_csv('Dataset.csv')
```

In [4]:

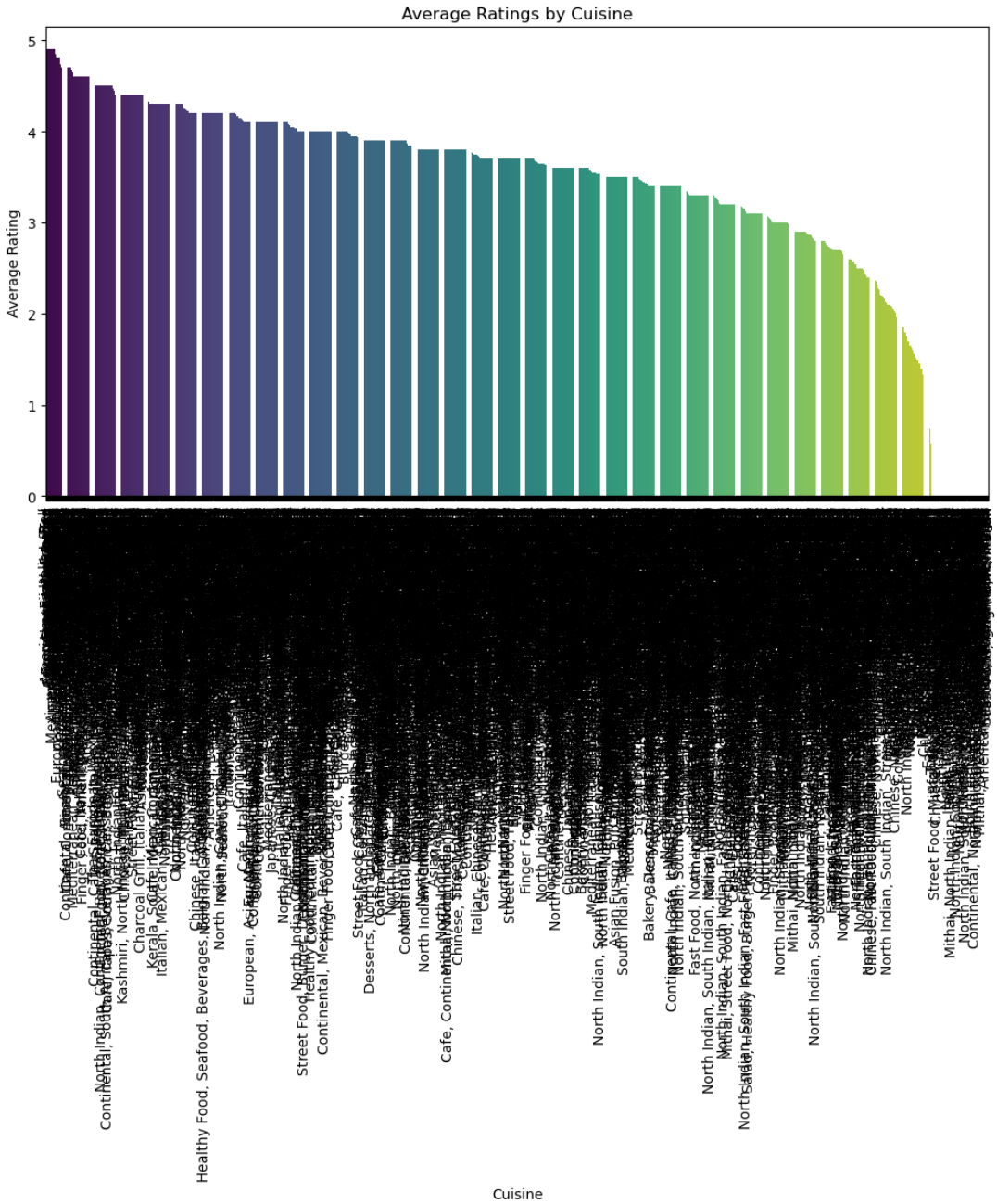
```
# Distribution of ratings using a histogram
plt.figure(figsize=(8, 6))
plt.hist(data['Aggregate rating'], bins=20, edgecolor='k')
plt.xlabel('Rating')
plt.ylabel('Frequency')
plt.title('Distribution of Ratings')
plt.show()


```



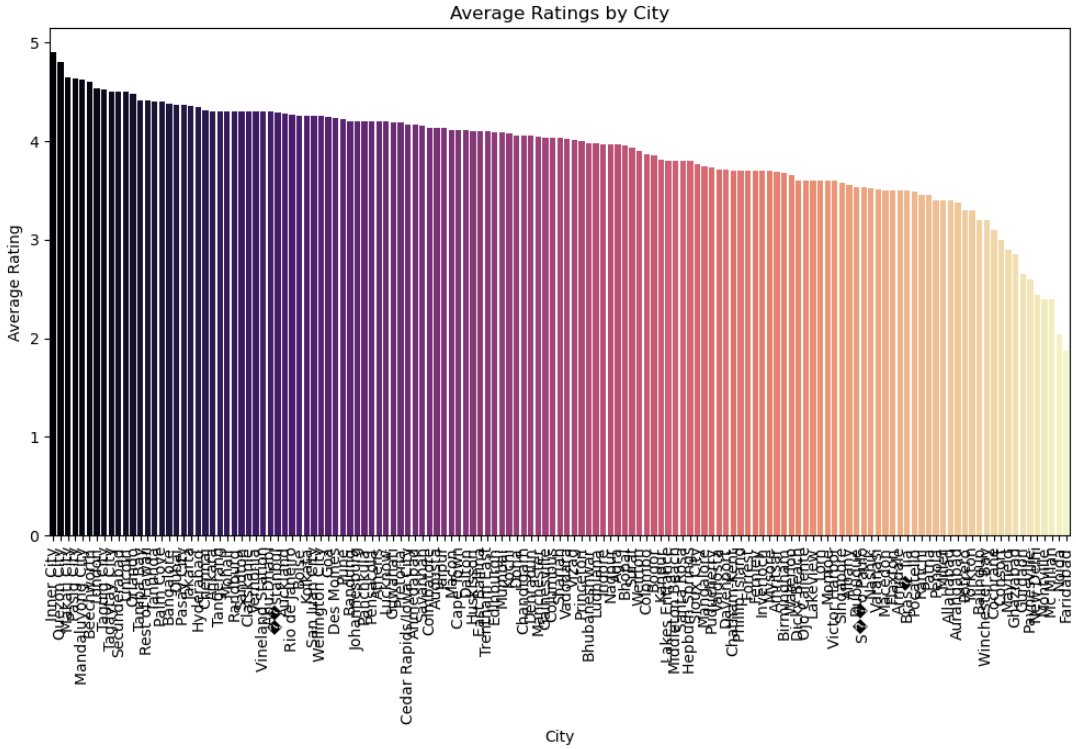
In [5]:

```
# Comparison of average ratings of different cuisines using a bar p
plt.figure(figsize=(12, 6))
average_ratings_by_cuisine = data.groupby('Cuisines')['Aggregate ra
sns.barplot(x=average_ratings_by_cuisine.index, y=average_ratings_b
plt.xlabel('Cuisine')
plt.ylabel('Average Rating')
plt.title('Average Ratings by Cuisine')
plt.xticks(rotation=90)
plt.show()
```



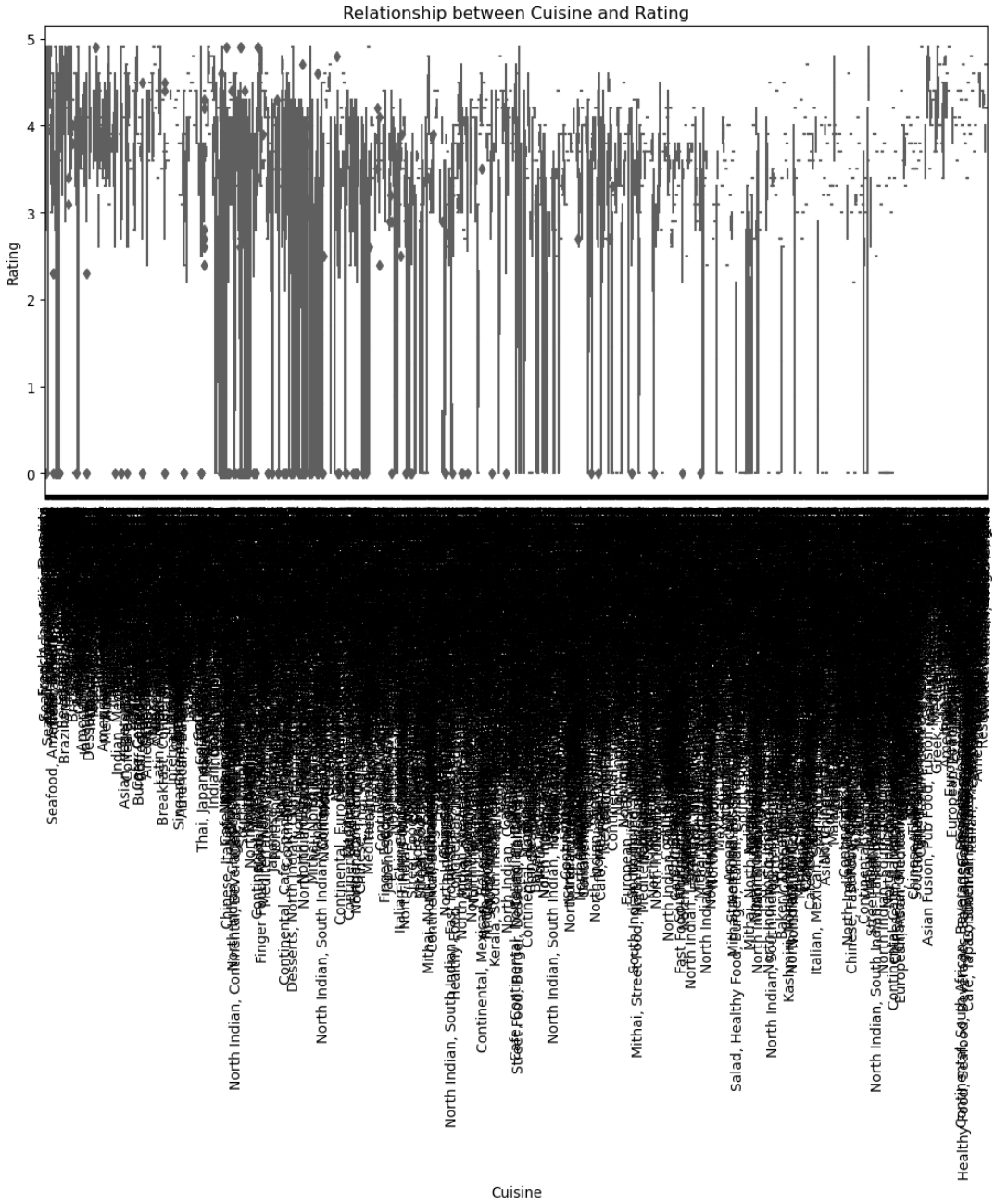
In [6]:

```
# Comparison of average ratings of different cities using a bar plo
plt.figure(figsize=(12, 6))
average_ratings_by_city = data.groupby('City')['Aggregate rating'].
sns.barplot(x=average_ratings_by_city.index, y=average_ratings_by_c
plt.xlabel('City')
plt.ylabel('Average Rating')
plt.title('Average Ratings by City')
plt.xticks(rotation=90)
plt.show()
```



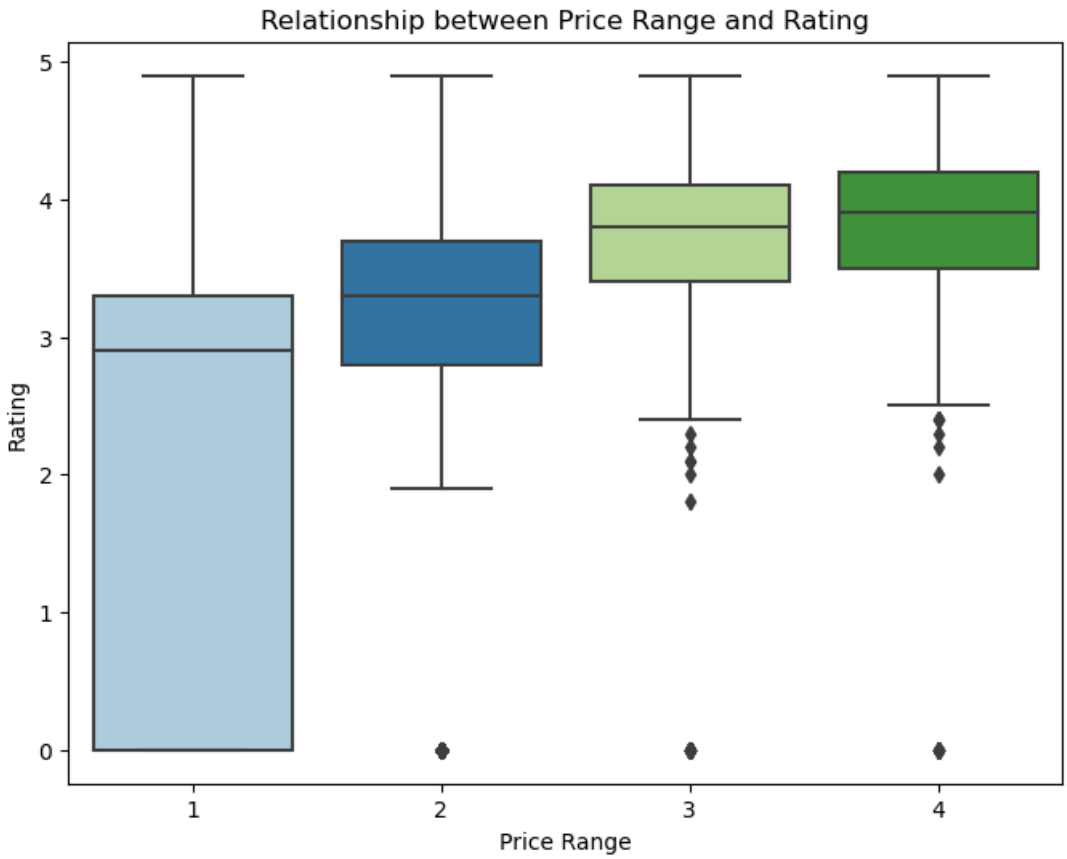
In [7]:

```
# Visualization of the relationship between various features and th
plt.figure(figsize=(12, 6))
sns.boxplot(x='Cuisines', y='Aggregate rating', data=data, palette=
plt.xlabel('Cuisine')
plt.ylabel('Rating')
plt.title('Relationship between Cuisine and Rating')
plt.xticks(rotation=90)
plt.show()
```



In [9]:

```
plt.figure(figsize=(8, 6))
sns.boxplot(x='Price range', y='Aggregate rating', data=data, palet
plt.xlabel('Price Range')
plt.ylabel('Rating')
plt.title('Relationship between Price Range and Rating')
plt.show()
```



In [27]:

```
import pandas as pd
from ydata_profiling import ProfileReport

data = pd.read_csv("Dataset.csv")
profile = ProfileReport(data,title = "profilereport")
# Generates the HTML Report that contains all the data related to D
profile.to_file("new.html")
```

```
---------------------------------------------------------------------
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ModuleNotFoundError                       Traceback (most recent call
last)
~\AppData\Local\Temp\ipykernel_12848\1975295358.py in <module>
      1 import pandas as pd
----> 2 from ydata_profiling import ProfileReport
      3
      4 data = pd.read_csv("Dataset.csv")
      5 profile = ProfileReport(data,title = "profilereport")

ModuleNotFoundError: No module named 'ydata_profiling'
```

In [ ]:

```
1
```

In [25]:

```
1 pip install ydata_profiling
2
```

```
Collecting ydata_profiling
  Using cached ydata_profiling-4.6.0-py2.py3-none-any.whl (357 kB)
Requirement already satisfied: multimethod<2,>=1.4 in c:\users\kaila
\anaconda3\lib\site-packages (from ydata_profiling) (1.10)
Requirement already satisfied: matplotlib<=3.7.3,>=3.2 in c:\users\k
aila\anaconda3\lib\site-packages (from ydata_profiling) (3.5.2)
Requirement already satisfied: tqdm<5,>=4.48.2 in c:\users\kaila\ana
conda3\lib\site-packages (from ydata_profiling) (4.66.1)
Requirement already satisfied: numpy<1.26,>=1.16.0 in c:\users\kaila
\anaconda3\lib\site-packages (from ydata_profiling) (1.24.3)
Collecting visions[type_image_path]==0.7.5
  Using cached visions-0.7.5-py3-none-any.whl (102 kB)
Requirement already satisfied: pandas!=1.4.0,<2.1,>1.1 in c:\users\k
aila\anaconda3\lib\site-packages (from ydata_profiling) (1.4.4)
Collecting imagehash==4.3.1
  Using cached ImageHash-4.3.1-py2.py3-none-any.whl (296 kB)
Requirement already satisfied: statsmodels<1,>=0.13.2 in c:\users\ka
ila\anaconda3\lib\site-packages (from ydata_profiling) (0.13.2)
Requirement already satisfied: pydantic<2,>=1.8.1 in c:\users\kaila
```

In [ ]:

```
1
```