```
import pandas as pd

df = pd.read_csv("Dataset.csv")
print(df.head())
print(df.info())
print(df.describe())
print(df.isnull().sum())
df = df.dropna()
from sklearn.preprocessing import LabelEncoder
label = LabelEncoder()
for col in df.columns:
    if df[col].dtype == 'object':
        df[col] = label.fit_transform(df[col])
X = df.drop('Aggregate rating', axis=1)
y = df['Aggregate rating']
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error, r2_score
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2)
model = LinearRegression()
model.fit(X_train, y_train)
y_pred = model.predict(X_test)
print("MSE:", mean_squared_error(y_test, y_pred))
print("R² Score:", r2_score(y_test, y_pred))
```

```
import matplotlib.pyplot as plt

plt.scatter(y_test, y_pred, alpha=0.5)
plt.xlabel("Actual Ratings")
plt.ylabel("Predicted Ratings")
plt.title("Actual vs Predicted Ratings")
plt.grid(True)
plt.show()
```

```
   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
3        6318506                   Ooma           162  Mandaluyong City
4        6314302             Sambo Kojin           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...
3  Third Floor, Mega Fashion Hall, SM Megamall, O...
4  Third Floor, Mega Atrium, SM Megamall, Ortigas...

                                  Locality  \
0   Century City Mall, Poblacion, Makati City
1  Little Tokyo, Legaspi Village, Makati City
2  Edsa Shangri-La, Ortigas, Mandaluyong City
3      SM Megamall, Ortigas, Mandaluyong City
4      SM Megamall, 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
3  SM Megamall, Ortigas, Mandaluyong City, Mandal...  121.056475  14.585318
4  SM Megamall, Ortigas, Mandaluyong City, Mandal...  121.057508  14.584450

                        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
3                   Japanese, Sushi  ...  Botswana Pula(P)                No
4                  Japanese, Korean  ...  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
3                  No                No                   No           4
4                  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               4.9    Dark Green   Excellent   365
4               4.8    Dark Green   Excellent   229

[5 rows x 21 columns]
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 9551 entries, 0 to 9550
Data columns (total 21 columns):
 #   Column                Non-Null Count  Dtype
---  ------                --------------  -----
 0   Restaurant ID         9551 non-null   int64
 1   Restaurant Name       9551 non-null   object
 2   Country Code          9551 non-null   int64
 3   City                  9551 non-null   object
 4   Address               9551 non-null   object
 5   Locality              9551 non-null   object
 6   Locality Verbose      9551 non-null   object
 7   Longitude             9551 non-null   float64
 8   Latitude              9551 non-null   float64
 9   Cuisines              9542 non-null   object
 10  Average Cost for two  9551 non-null   int64
 11  Currency              9551 non-null   object
 12  Has Table booking     9551 non-null   object
 13  Has Online delivery   9551 non-null   object
 14  Is delivering now     9551 non-null   object
 15  Switch to order menu  9551 non-null   object
 16  Price range           9551 non-null   int64
 17  Aggregate rating      9551 non-null   float64
 18  Rating color          9551 non-null   object
 19  Rating text           9551 non-null   object
 20  Votes                 9551 non-null   int64
dtypes: float64(3), int64(5), object(13)
memory usage: 1.5+ MB
None
       Restaurant ID  Country Code    Longitude     Latitude  \
count   9.551000e+03   9551.000000  9551.000000  9551.000000
mean    9.051128e+06     18.365616    64.126574    25.854381
std     8.791521e+06     56.750546    41.467058    11.007935
min     5.300000e+01      1.000000  -157.948486   -41.330428
25%     3.019625e+05      1.000000    77.081343    28.478713
50%     6.004089e+06      1.000000    77.191964    28.570469
75%     1.835229e+07      1.000000    77.282006    28.642758
max     1.850065e+07    216.000000   174.832089    55.976980

       Average Cost for two  Price range  Aggregate rating         Votes
```

count	9551.000000	9551.000000	9551.000000	9551.000000
mean	1199.210763	1.804837	2.666370	156.909748
std	16121.183073	0.905609	1.516378	430.169145
min	0.000000	1.000000	0.000000	0.000000
25%	250.000000	1.000000	2.500000	5.000000
50%	400.000000	2.000000	3.200000	31.000000
75%	700.000000	2.000000	3.700000	131.000000
max	800000.000000	4.000000	4.900000	10934.000000

```
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
MSE: 1.1771924846402309
R² Score: 0.4875004302924706
```