```
import pandas as pd
import requests, openpyxl
from bs4 import BeautifulSoup

url= 'https://www.imdb.com/chart/top/'
headers ={'user-agent':'Mozilla/5.0 (Windows NT 10.0; Win64; x64)
AppleWebKit/537.36 (KHTML, like Gecko) Chrome/120.0.0.0
Safari/537.36'}
response=requests.get(url,headers=headers)



soup=BeautifulSoup(response.content,'html.parser')

movies = soup.find_all('li',attrs='ipc-metadata-list-summary-item sc-
1364e729-0 caNpAE cli-parent')

print(len(movies))
```

```
250
```

```
csv_filename='movies_data.csv'

import csv

with open(csv_filename, mode='w', newline='', encoding='utf-8-sig') as
file:
    writer = csv.writer(file)
    header = ['Rank', 'Name', 'Year', 'Rating']
    writer.writerow(header)
    for movie in movies:
        name=movie.find('div', attrs='ipc-title ipc-title--base ipc-
title--title ipc-title-link-no-icon ipc-title--on-textPrimary sc-
1e00898e-9 jQixeG cli-title').a.text.split('.')[1]
        rank=movie.find('div', attrs='ipc-title ipc-title--base ipc-
title--title ipc-title-link-no-icon ipc-title--on-textPrimary sc-
1e00898e-9 jQixeG cli-title').a.text.split('.')[0]
        year=movie.find('span',attrs='sc-1e00898e-8 hsHAHC cli-title-
metadata-item').text
        rating=movie.find('span',attrs='ipc-rating-star ipc-rating-
star--base ipc-rating-star--imdb ratingGroup--imdb-rating').span.text

        writer.writerow([rank,name,year,rating])
print("Data has been written to the csv file:",csv_filename)
```

```
Data has been written to the csv file: movies_data.csv
```

```
data=pd.read_csv()

data.shape
```

```
(250, 4)
```

data,header

```
(     Rank                        Name  Year   Rating
 0       1   The Shawshank Redemption  1994   (2.8M)
 1       2              The Godfather  1972     (2M)
 2       3            The Dark Knight  2008   (2.8M)
 3       4     The Godfather: Part II  1974   (1.3M)
 4       5                12 Angry Men  1957   (851K)
 ..    ...                         ...   ...      ...
 245   246                   The Help  2011   (487K)
 246   247      It Happened One Night  1934   (111K)
 247   248              The 400 Blows  1959   (126K)
 248   249            Pather Panchali  1955    (38K)
 249   250         Gangs of Wasseypur  2012   (103K)

 [250 rows x 4 columns],
 ['Rank', 'Name', 'Year', 'Rating'])
```

data.describe()

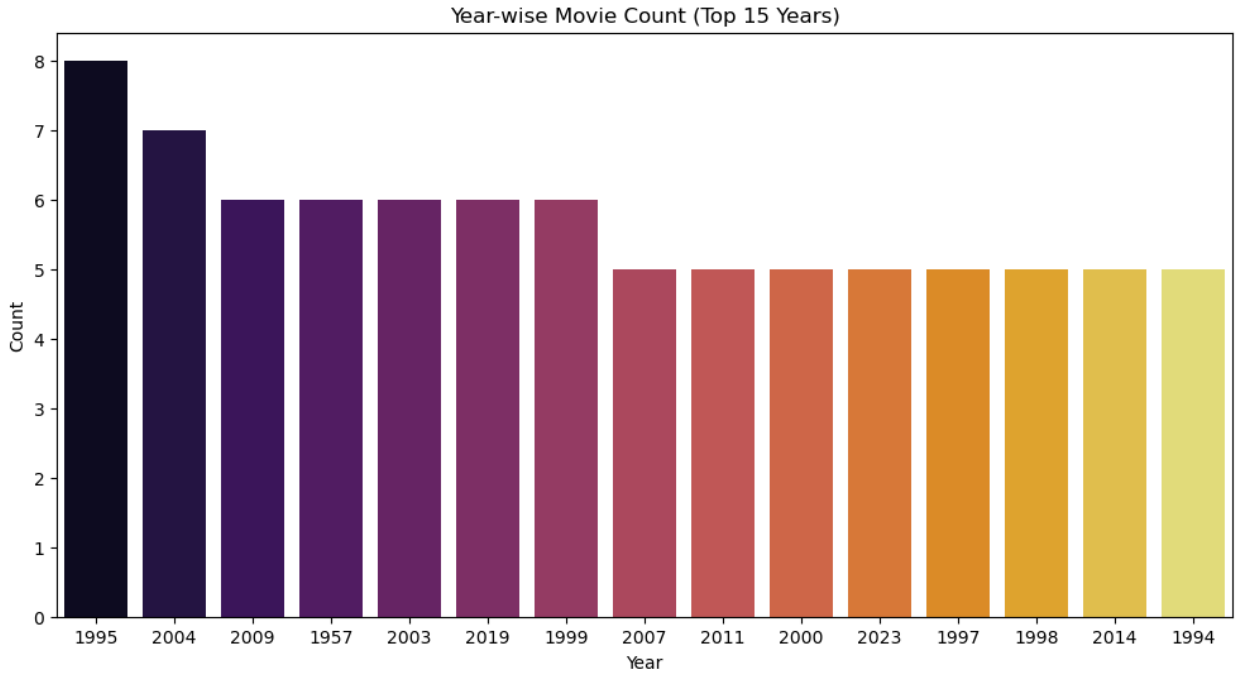
```
              Rank         Year
count  250.000000   250.000000
mean   125.500000  1987.332000
std     72.312977    25.637373
min      1.000000  1921.000000
25%     63.250000  1967.250000
50%    125.500000  1995.000000
75%    187.750000  2007.750000
max    250.000000  2023.000000
```

data.info()

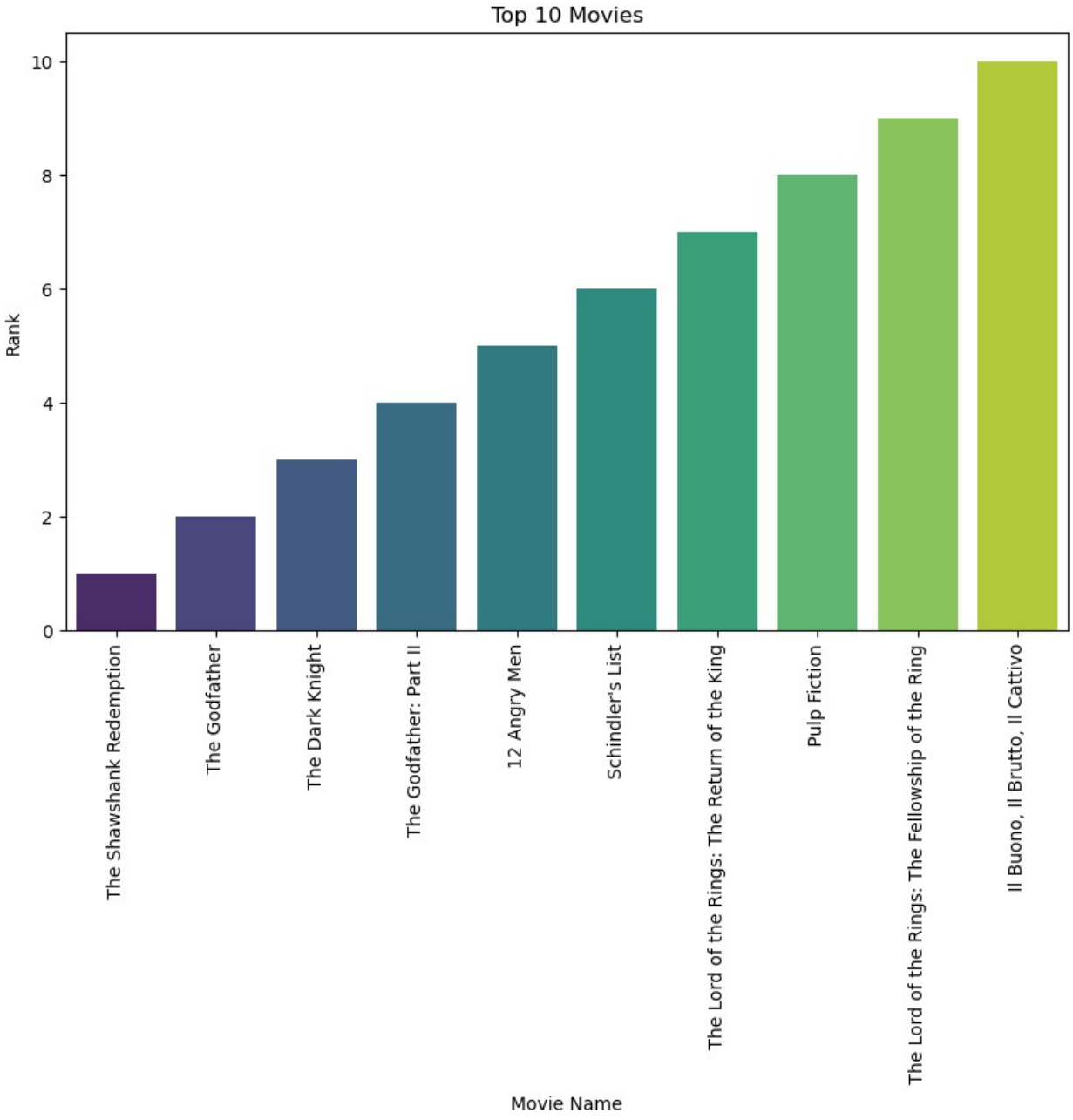
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 250 entries, 0 to 249
Data columns (total 4 columns):
 #   Column  Non-Null Count  Dtype 
---  ------  --------------  ----- 
 0   Rank    250 non-null    int64 
 1   Name    250 non-null    object
 2   Year    250 non-null    int64 
 3   Rating  250 non-null    object
dtypes: int64(2), object(2)
memory usage: 7.9+ KB
```

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

# Ploting: Year-wise Movie Count
top_years = data['Year'].value_counts().head(15).index.tolist()
```

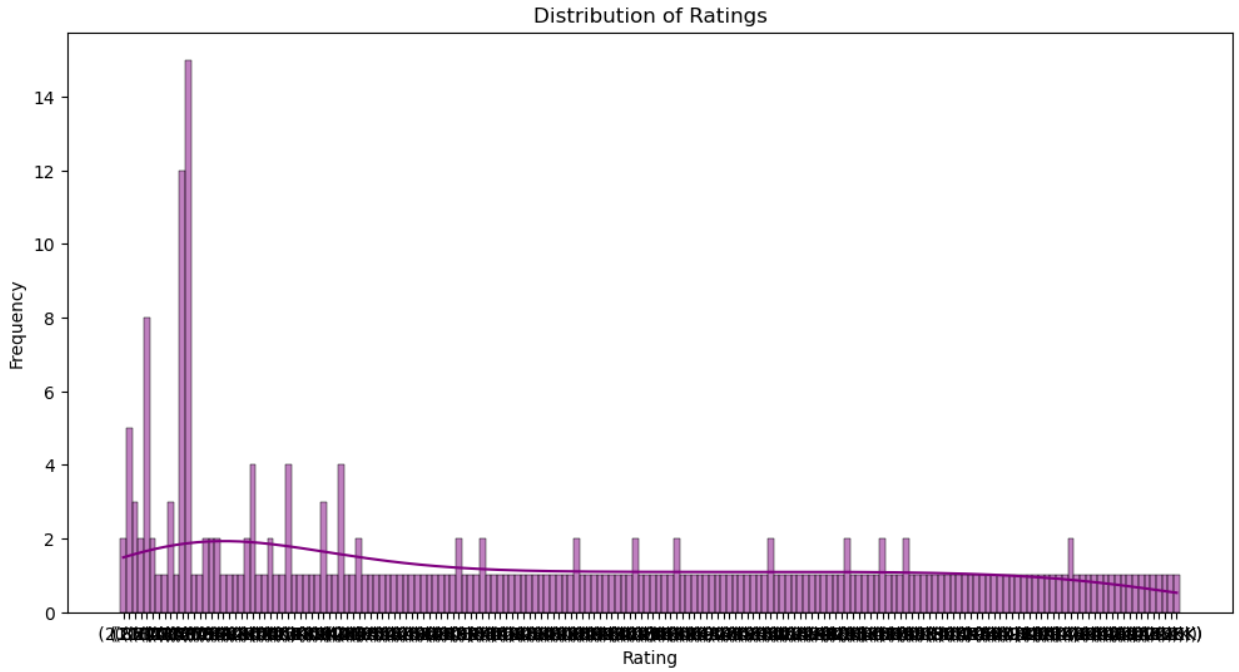
```
plt.figure(figsize=(12, 6))
sns.countplot(data=data[data['Year'].isin(top_years)], x='Year',
palette='inferno', order=top_years)
plt.title('Year-wise Movie Count (Top 15 Years)')
plt.xlabel('Year')
plt.ylabel('Count')

plt.show()
```



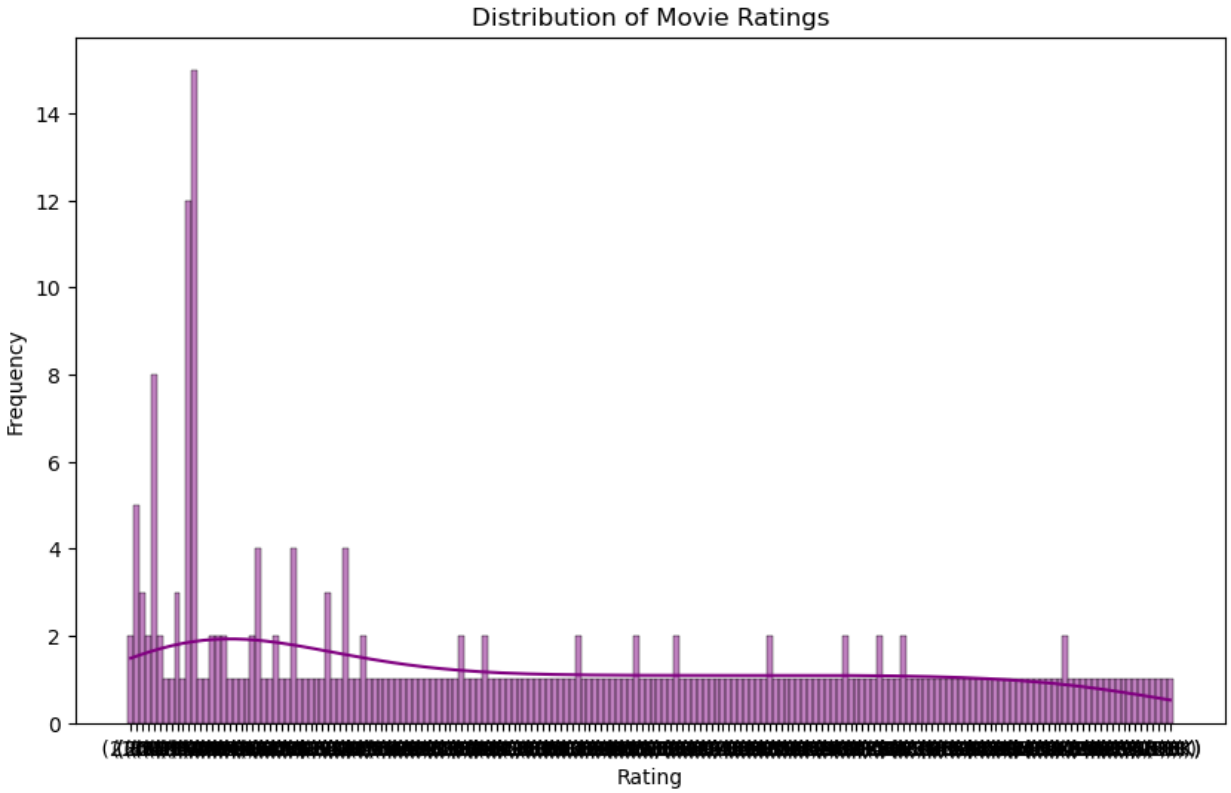

```
# Ploting: Top 10 Movies
top_10 = data.head(10)
plt.figure(figsize=(10, 6))
sns.barplot(data=top_10, x='Name', y='Rank', palette='viridis')
plt.title('Top 10 Movies')
plt.xlabel('Movie Name')
plt.ylabel('Rank')
plt.xticks(rotation=90)
plt.show()
```



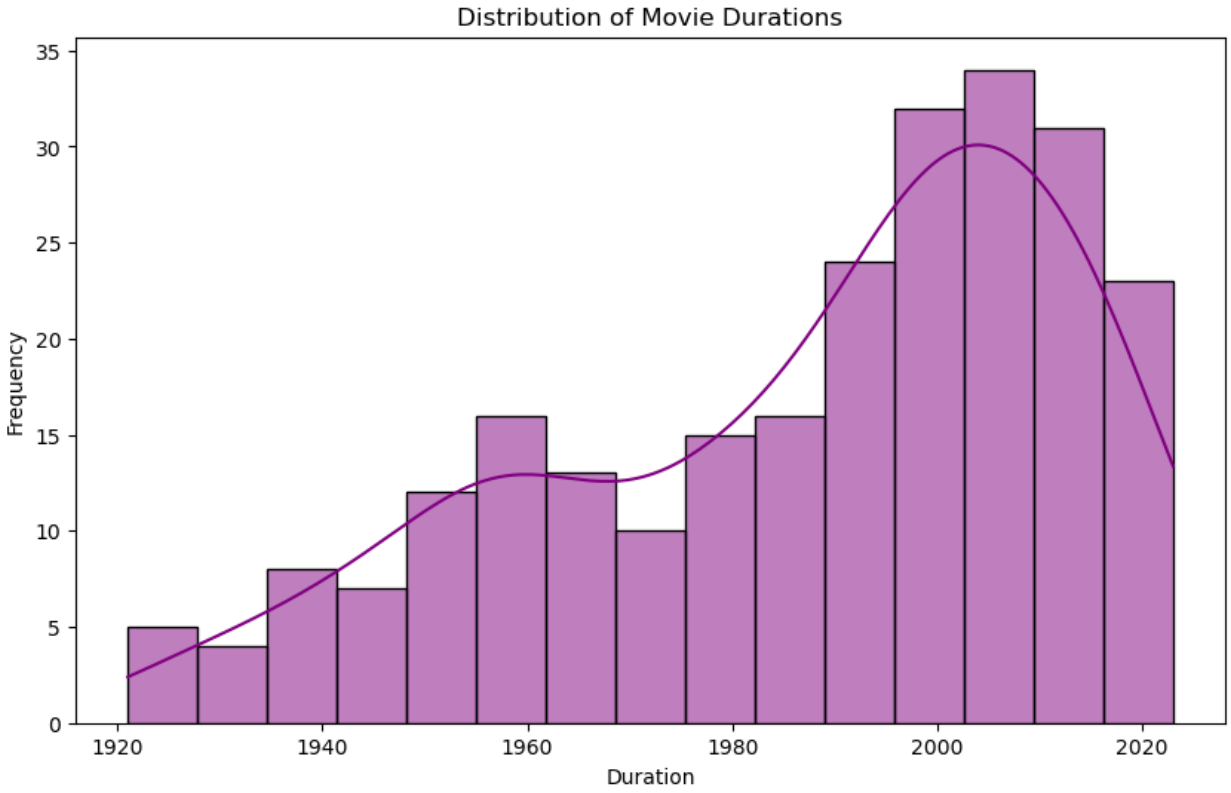

```
# Ploting: Distribution of Ratings
plt.figure(figsize=(12, 6))
sns.histplot(data=data, x='Rating', bins=20, kde=True, color='purple')
plt.title('Distribution of Ratings')
plt.xlabel('Rating')
plt.ylabel('Frequency')
plt.show()
```



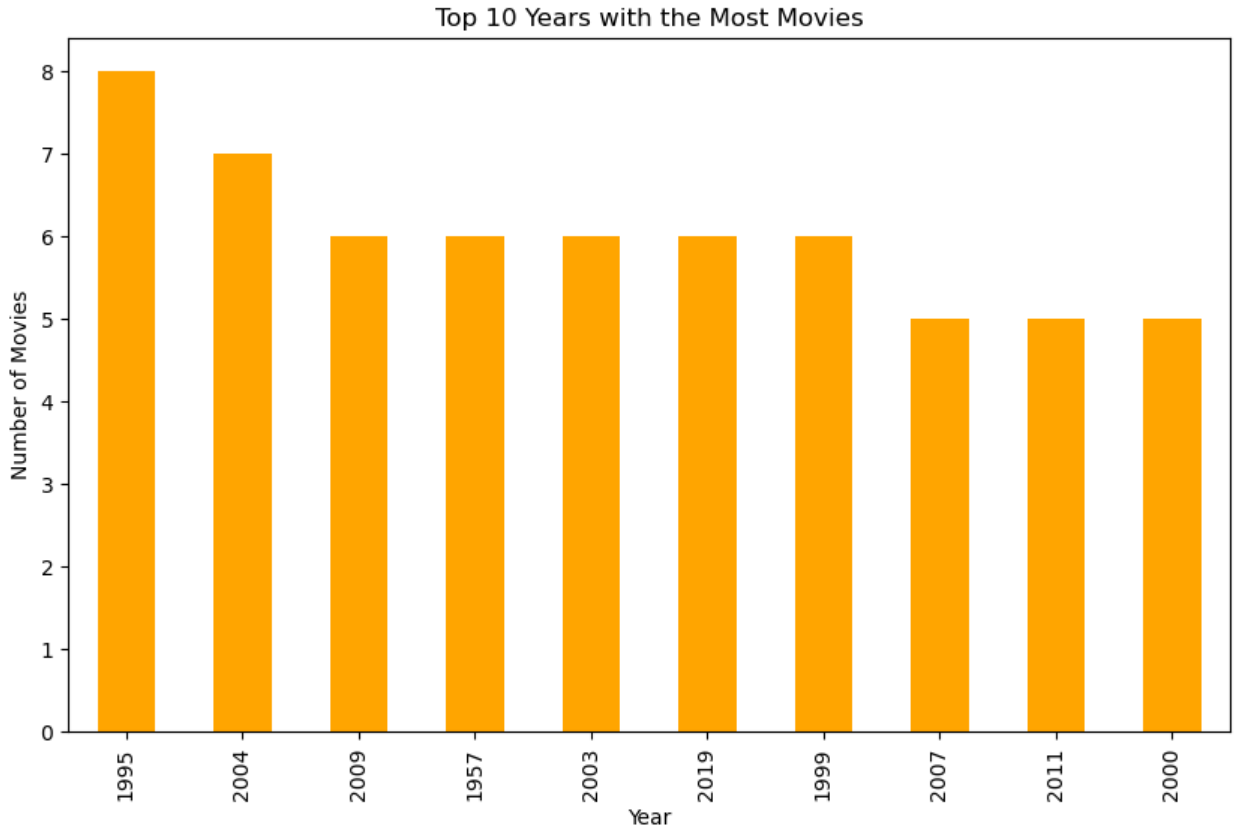

```
#Rating Distribution plot
plt.figure(figsize=(10, 6))
sns.histplot(data=data, x='Rating', kde=True, color='purple')
plt.title('Distribution of Movie Ratings')
plt.xlabel('Rating')
plt.ylabel('Frequency')
plt.show()
```



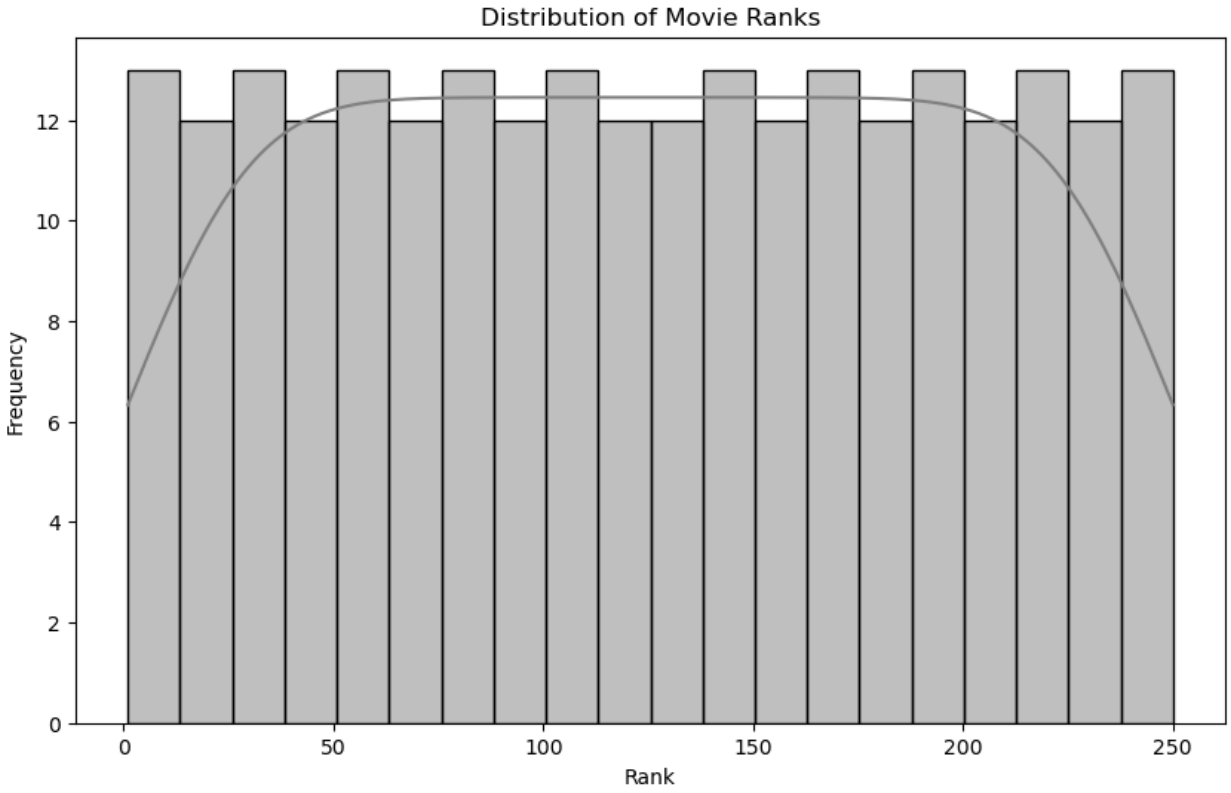

```
# Movie Durations Distribution
plt.figure(figsize=(10, 6))
sns.histplot(data['Year'], bins=15, kde=True,color='purple')
plt.title('Distribution of Movie Durations')
plt.xlabel('Duration')
plt.ylabel('Frequency')
plt.show()
```




```
# Plot the top 10 years with the most movies
plt.figure(figsize=(10, 6))
data['Year'].value_counts().head(10).plot(kind='bar',color='orange')
plt.title('Top 10 Years with the Most Movies')
plt.xlabel('Year')
plt.ylabel('Number of Movies')
plt.show()
```




```
# Plot the distribution of movie ranks
plt.figure(figsize=(10, 6))
sns.histplot(data['Rank'], bins=20, kde=True, color='grey')
plt.title('Distribution of Movie Ranks')
plt.xlabel('Rank')
plt.ylabel('Frequency')
plt.show()
```


Distribution of Movie Ranks
Frequency
Rank
0
2
4
6
8
10
12
0
50
100
150
200
250