In [ ]:

```
import csv
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.graph_objects as go
from IPython.display import display, Markdown

df = pd.read_csv("TV Shows and Movies.csv")
df.head()
```

Out[ ]:

	index	id	title	type	description	release_year	age_certification	runtime
0	0	tm84618	Taxi Driver	MOVIE	A mentally unstable Vietnam War veteran works ...	1976	R	113
1	1	tm127384	Monty Python and the Holy Grail	MOVIE	King Arthur, accompanied by his squire, recrui...	1975	PG	91
2	2	tm70993	Life of Brian	MOVIE	Brian Cohen is an average young Jewish man, bu...	1979	R	94
3	3	tm190788	The Exorcist	MOVIE	12-year-old Regan MacNeil begins to adapt an e...	1973	R	133
4	4	ts22164	Monty Python's Flying Circus	SHOW	A British sketch comedy series with the shows ...	1969	TV-14	30

In [ ]:

```
df.describe()
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5283 entries, 0 to 5282
Data columns (total 11 columns):
 #   Column             Non-Null Count  Dtype  
---  ------             --------------  -----  
 0   index              5283 non-null   int64  
 1   id                 5283 non-null   object 
 2   title              5283 non-null   object 
 3   type               5283 non-null   object 
 4   description        5278 non-null   object 
 5   release_year       5283 non-null   int64  
 6   age_certification  2998 non-null   object 
 7   runtime            5283 non-null   int64  
 8   imdb_id            5283 non-null   object 
 9   imdb_score         5283 non-null   float64
 10  imdb_votes         5267 non-null   float64
dtypes: float64(2), int64(3), object(6)
memory usage: 454.1+ KB
```

In [ ]:

```
df.isnull().sum()
```

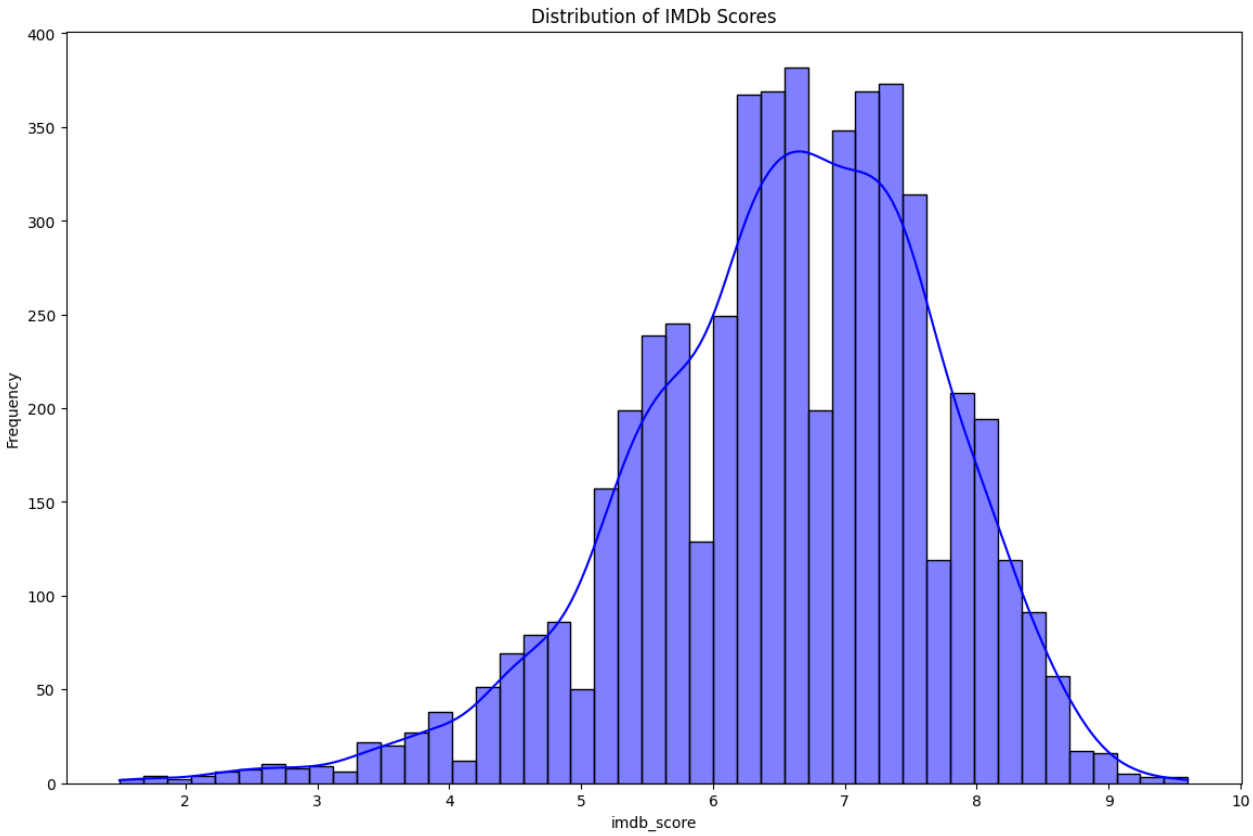
Out[ ]:

```
index                 0
id                    0
title                 0
type                  0
description           5
release_year          0
age_certification    2285
runtime               0
imdb_id               0
imdb_score            0
imdb_votes           16
dtype: int64
```

In [ ]:

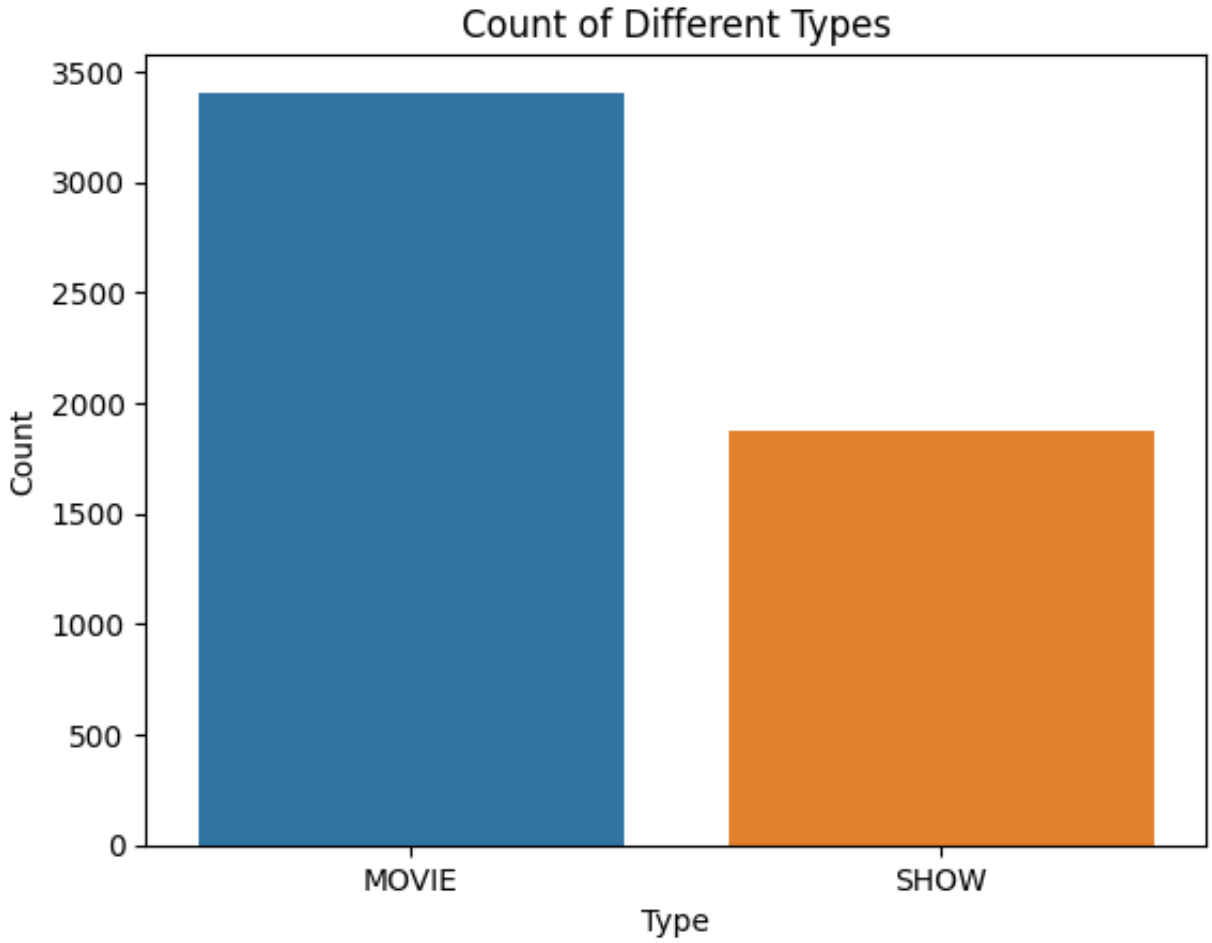
```
# Set the size of the figure
plt.figure(figsize=(14, 9))  # Adjust the dimensions as needed

# Visualizing distribution of IMDb scores
sns.histplot(df['imdb_score'],kde=True,color='blue')
plt.xlabel('imdb_score')
plt.ylabel('Frequency')
plt.title('Distribution of IMDb Scores')
plt.show
```

Out[ ]: <function matplotlib.pyplot.show(close=None, block=None)>



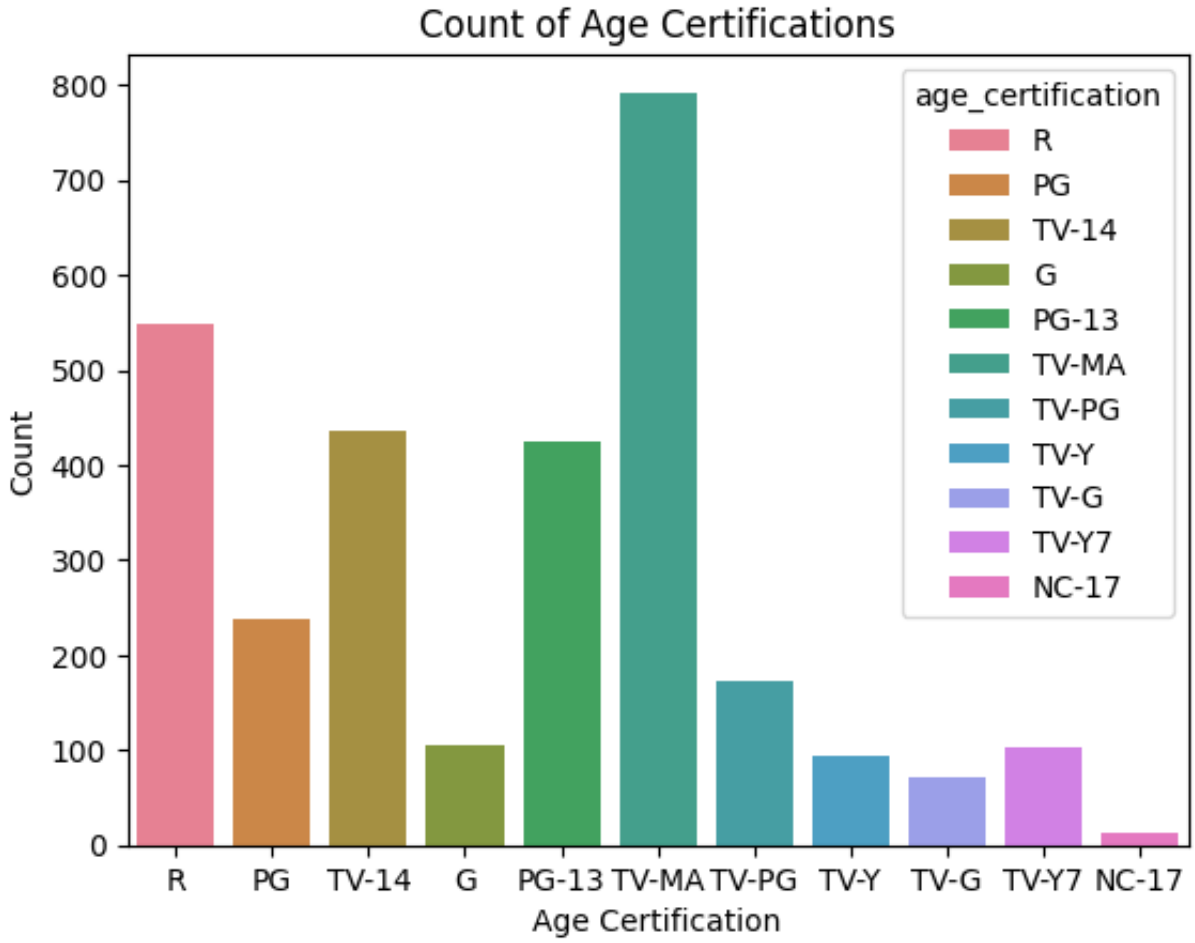
In [ ]:

```
# Count of different types (MOVIE, SHOW, etc.)
sns.countplot(x='type', data=df , hue='type')
plt.xlabel('Type')
plt.ylabel('Count')
plt.title('Count of Different Types')
plt.show()
```



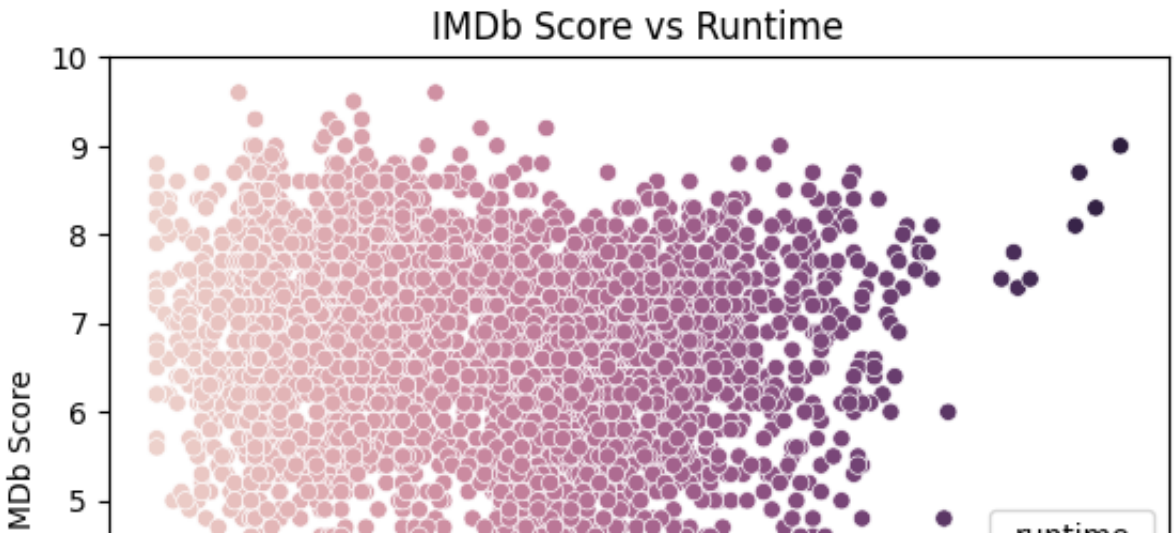
In [ ]:

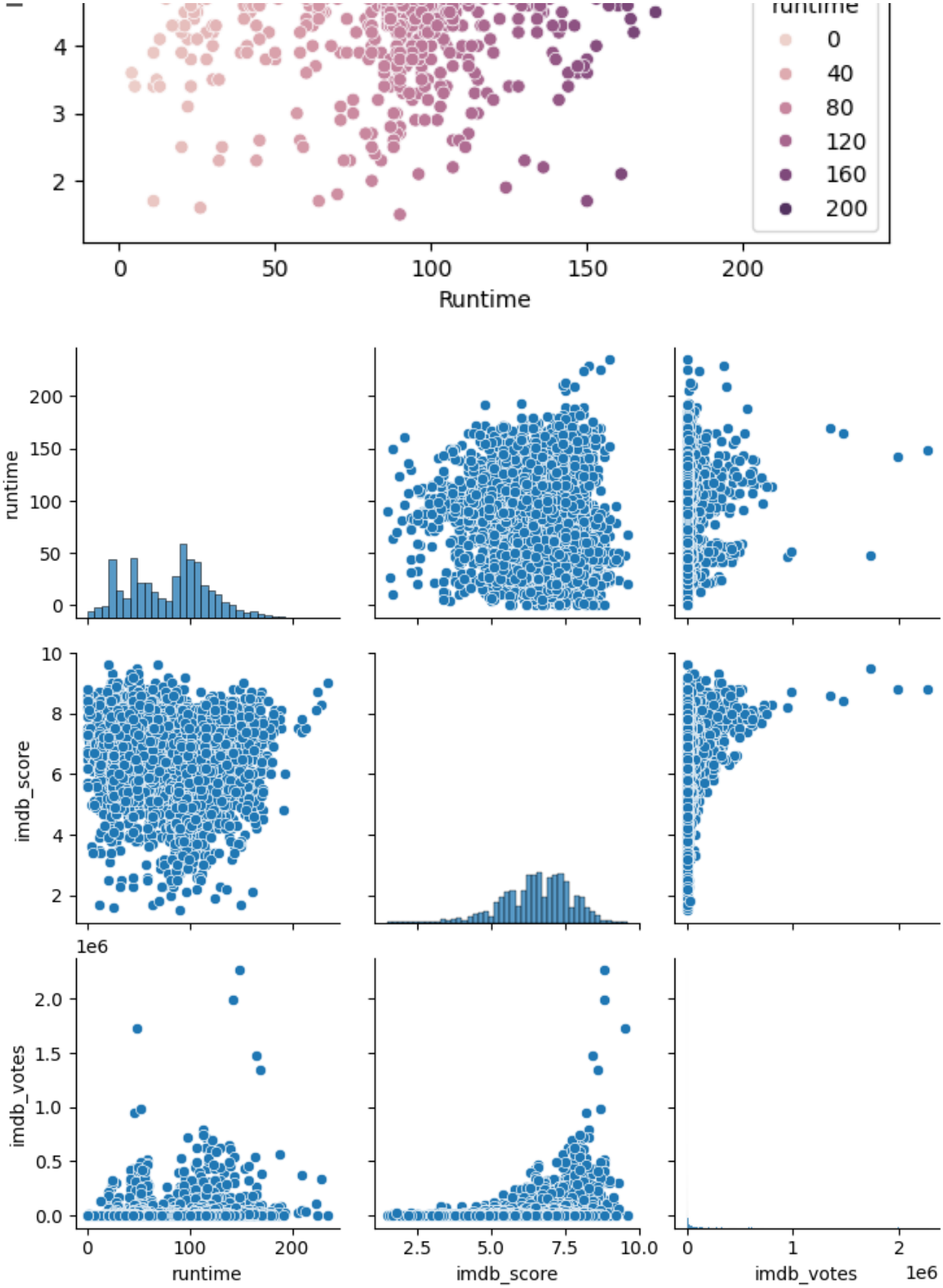
```
# Count of age certifications
sns.countplot(x='age_certification', data=df , hue='age_certification')
plt.xlabel('Age Certification')
plt.ylabel('Count')
plt.title('Count of Age Certifications')
plt.show()
```



In [ ]:

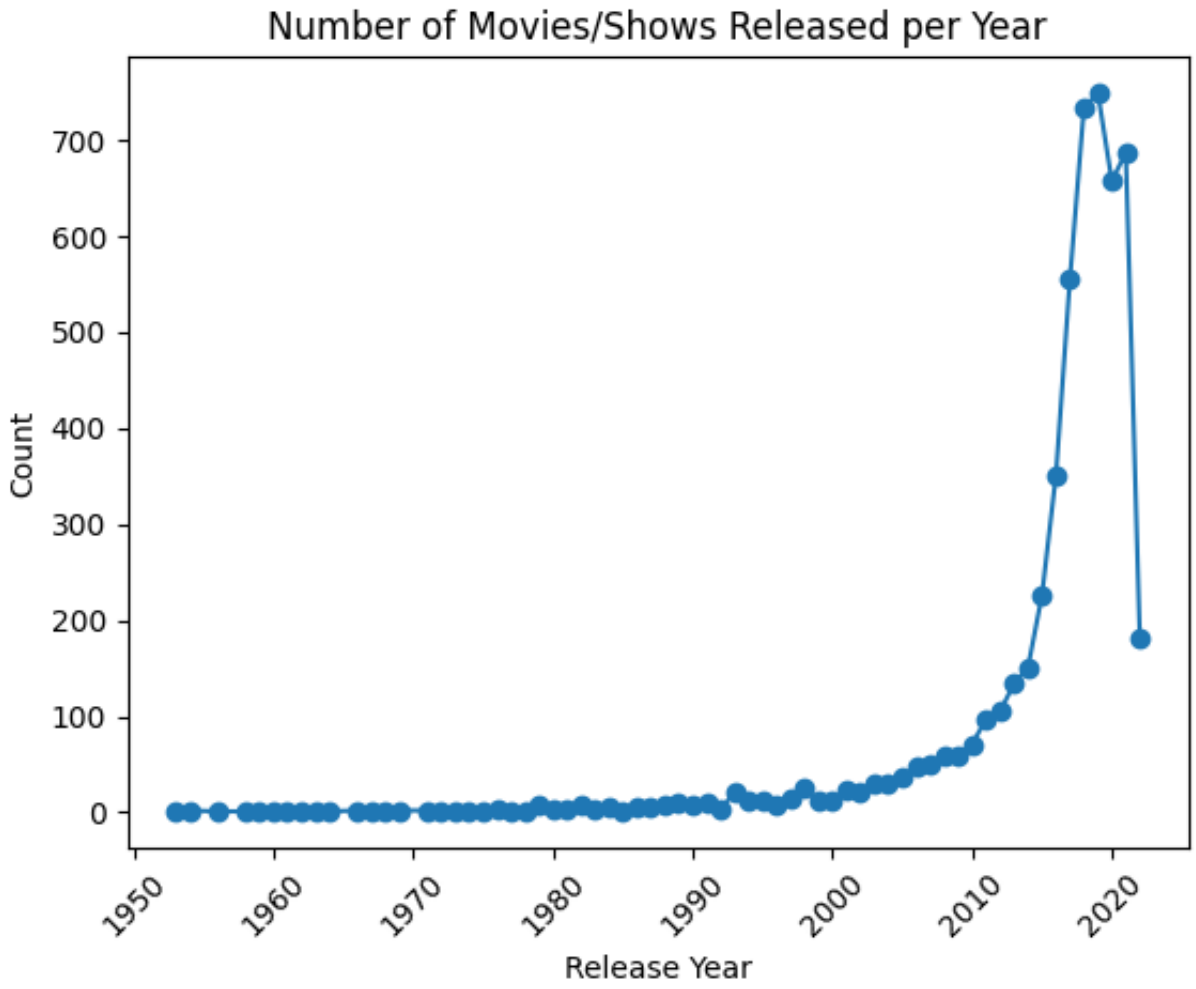
```
# Relationship between IMDb score and runtime
sns.scatterplot(x='runtime', y='imdb_score', data=df, hue='runtime')
plt.xlabel('Runtime')
plt.ylabel('IMDb Score')
plt.title('IMDb Score vs Runtime')
plt.show()

# Pairwise relationships between numerical variables
sns.pairplot(df[['runtime', 'imdb_score', 'imdb_votes']])
plt.show()
```

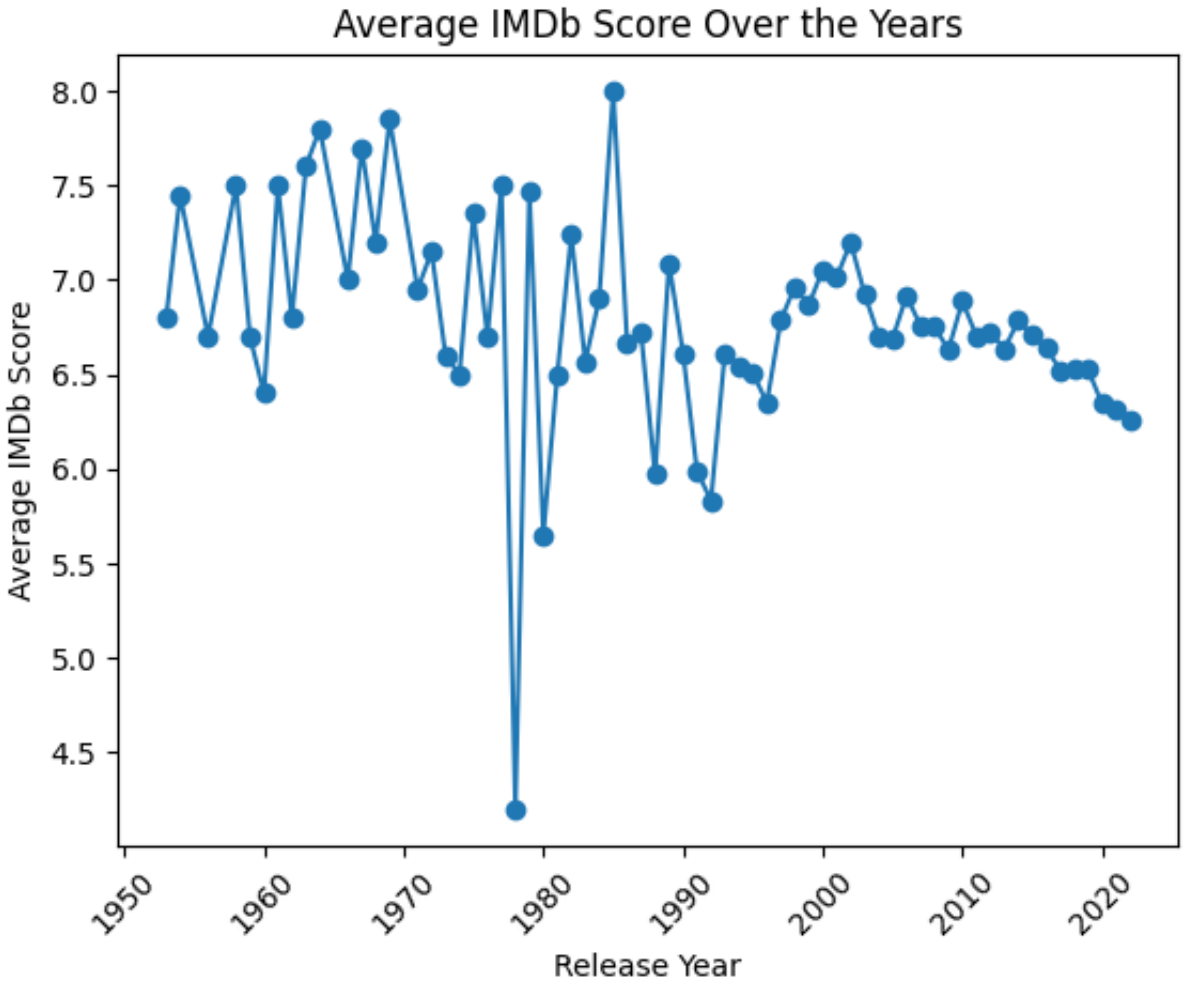



runtime
0
40
80
120
160
200
Runtime
imdb_score
imdb_votes
1e6
runtime
imdb_score
imdb_votes
1e6

In [ ]:

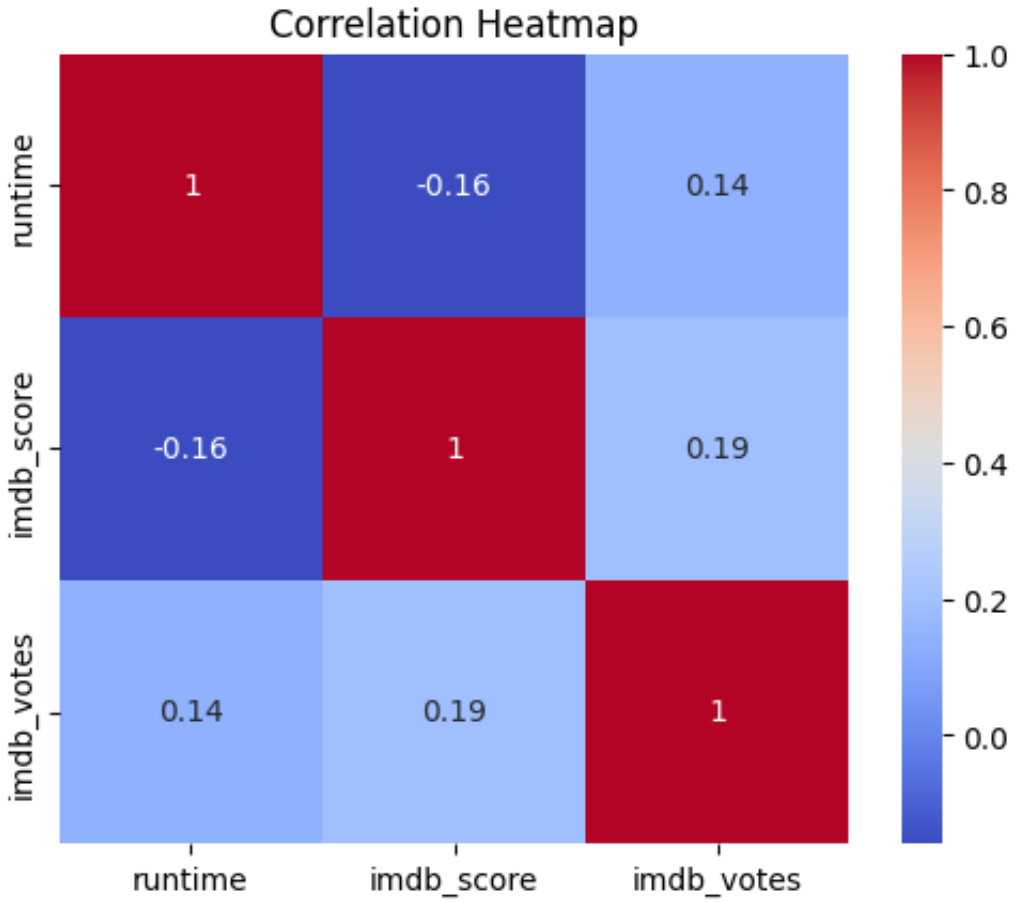
```
# Number of movies/shows released per year
yearly_counts = df['release_year'].value_counts().sort_index()
plt.plot(yearly_counts.index, yearly_counts.values, marker='o')
plt.xlabel('Release Year')
plt.ylabel('Count')
plt.title('Number of Movies/Shows Released per Year')
plt.xticks(rotation=45)
plt.show()

# Average IMDb scores over the years
yearly_mean_score = df.groupby('release_year')['imdb_score'].mean()
plt.plot(yearly_mean_score.index, yearly_mean_score.values, marker='o')
plt.xlabel('Release Year')
plt.ylabel('Average IMDb Score')
plt.title('Average IMDb Score Over the Years')
plt.xticks(rotation=45)
plt.show()
```





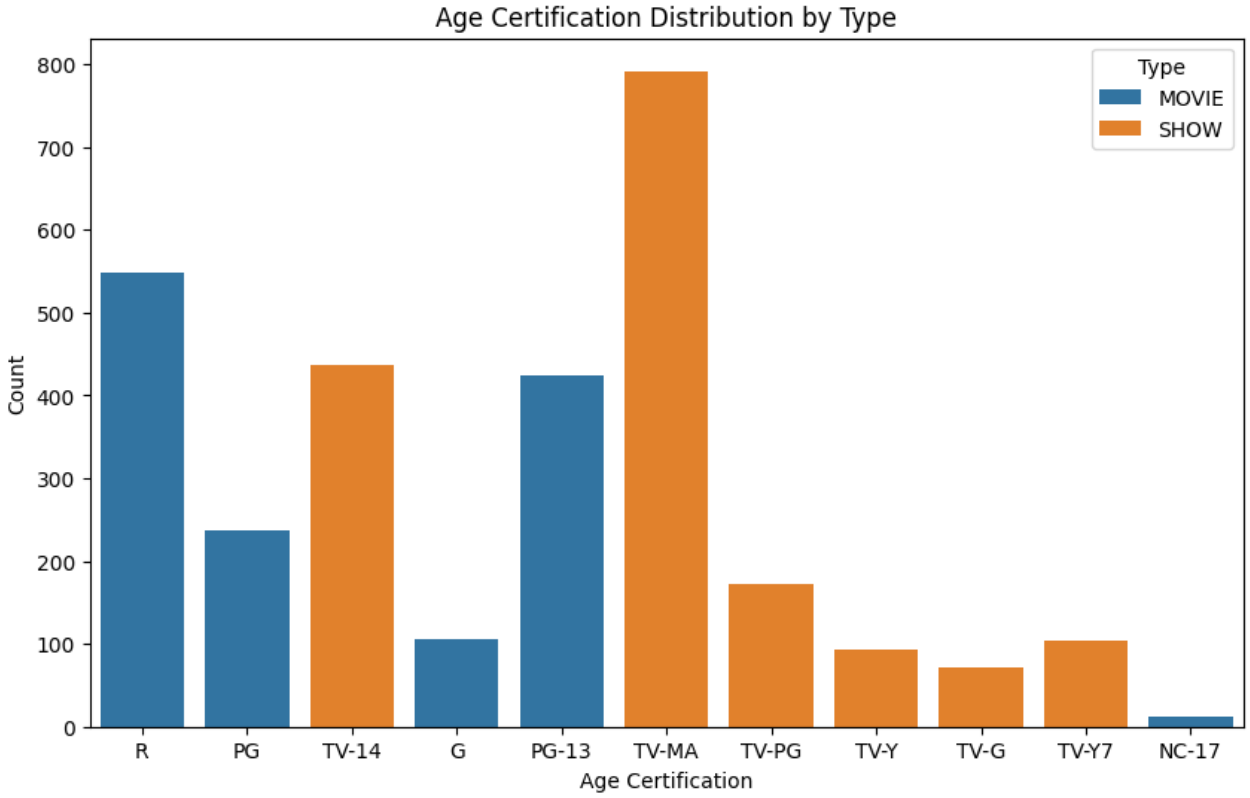
In [ ]:

```
# Correlation heatmap
correlation = df[['runtime', 'imdb_score', 'imdb_votes']].corr()
sns.heatmap(correlation, annot=True, cmap='coolwarm', square=True)
plt.title('Correlation Heatmap')
plt.show()
```



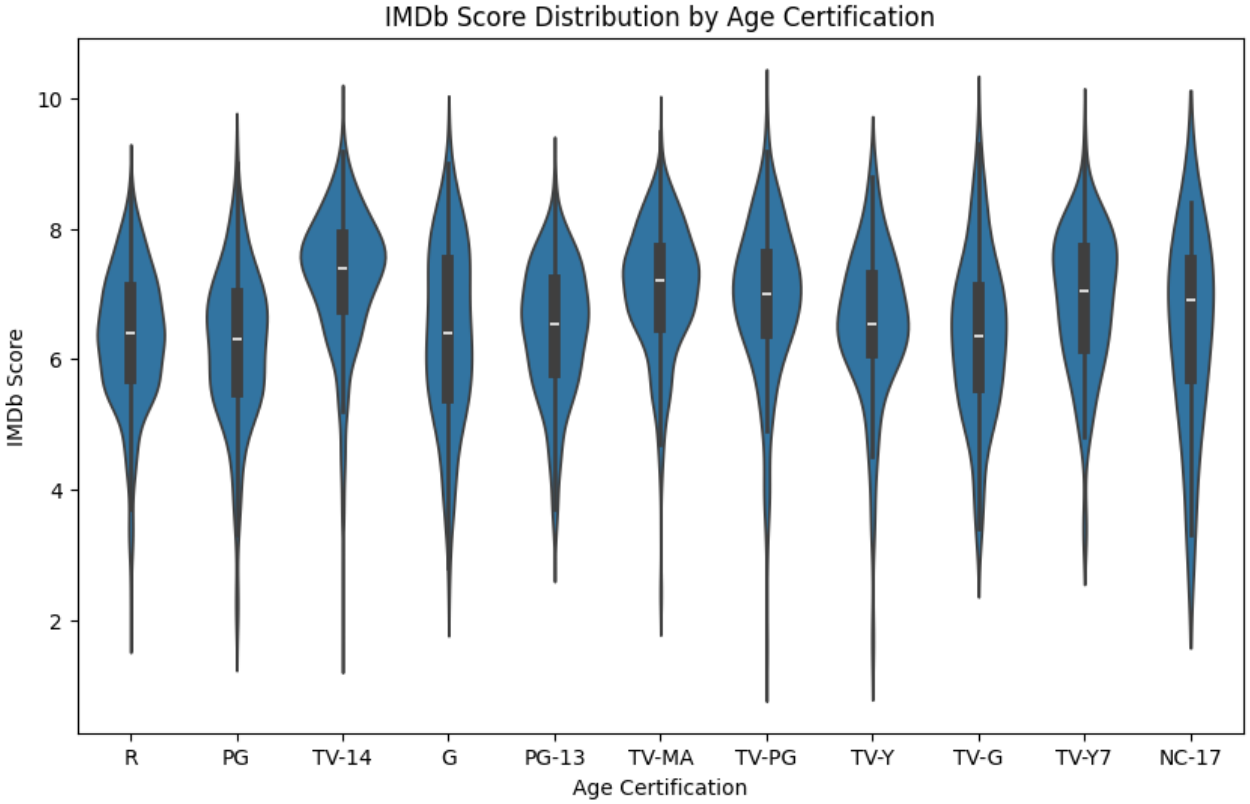
In [ ]:

```
# Age certification distribution by type
plt.figure(figsize=(10, 6))
sns.countplot(x='age_certification', hue='type', data=df)
plt.xlabel('Age Certification')
plt.ylabel('Count')
plt.title('Age Certification Distribution by Type')
plt.legend(title='Type')
plt.show()
```



In [ ]:

```
plt.figure(figsize=(10, 6))
sns.violinplot(x='age_certification', y='imdb_score',data=df)
plt.xlabel('Age Certification')
plt.ylabel('IMDb Score')
plt.title('IMDb Score Distribution by Age Certification')
plt.show()
```



In [ ]:
```
import plotly.express as px

# Scatter plot for IMDb scores vs. IMDb votes
fig = px.scatter(df, x='imdb_votes', y='imdb_score', title='IMDb Scores vs
fig.update_layout(xaxis_title='IMDb Votes', yaxis_title='IMDb Score')
fig.show()
```

In [ ]:
```
# Define LinkedIn and GitHub links
linkedin_link = "[LinkedIn](https://www.linkedin.com/in/onur-gumus/)"
github_link = "[GitHub](https://github.com/onrgumus)"

# Display LinkedIn and GitHub links
display(Markdown(f"{linkedin_link} ||| {github_link}"))
```

LinkedIn ||| GitHub