```
from google.colab import files
data=files.upload()
```

Choose Files imdb_top_1000.csv

- **imdb_top_1000.csv**(text/csv) - 438096 bytes, last modified: 8/1/2024 - 100% done

```
Saving imdb_top_1000.csv to imdb_top_1000.csv
```

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

```
df=pd.read_csv("imdb_top_1000.csv")
df.head()
```

	Poster_Link	Series_Title	Released_Year	Certificate	Runtime	Genre	IMDB_Rating	Overview	Meta_score
0	https://m.media-amazon.com/images/M/MV5BMDFkYT...	The Shawshank Redemption	1994	A	142 min	Drama	9.3	Two imprisoned men bond over a number of years...	80.
1	https://m.media-amazon.com/images/M/MV5BM2MyNj...	The Godfather	1972	A	175 min	Crime, Drama	9.2	An organized crime dynasty's aging patriarch t...	100.
2	https://m.media-amazon.com/images/M/MV5BMTMxNT...	The Dark Knight	2008	UA	152 min	Action, Crime, Drama	9.0	When the menace known as the Joker wreaks havo...	84.
3	https://m.media-amazon.com/images/M/MV5BMWMwMG...	The Godfather: Part II	1974	A	202 min	Crime, Drama	9.0	The early life and career of Vito Corleone in ...	90.
4	https://m.media-amazon.com/images/M/MV5BMWU4N2...	12 Angry Men	1957	U	96 min	Crime, Drama	9.0	A jury holdout attempts to prevent a miscarria...	96.

```
print(df.info())
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 16 columns):
 #   Column         Non-Null Count  Dtype  
---  ------         --------------  -----  
 0   Poster_Link    1000 non-null   object 
 1   Series_Title   1000 non-null   object 
 2   Released_Year  1000 non-null   object 
 3   Certificate    899 non-null    object 
 4   Runtime        1000 non-null   object 
 5   Genre          1000 non-null   object 
 6   IMDB_Rating    1000 non-null   float64
 7   Overview       1000 non-null   object 
 8   Meta_score     843 non-null    float64
 9   Director       1000 non-null   object 
 10  Star1          1000 non-null   object 
 11  Star2          1000 non-null   object 
 12  Star3          1000 non-null   object 
 13  Star4          1000 non-null   object 
 14  No_of_Votes    1000 non-null   int64  
 15  Gross          831 non-null    object 
dtypes: float64(2), int64(1), object(13)
memory usage: 125.1+ KB
None
```

** Task 1. Director's Impact on Gross Earnings: Analyze how movies directed by different directors**

perform in terms of gross earnings. Are there any noticeable trends or patterns?**bold text**

```
df['Director'].nunique()
```

```
548
```

```
director_gross = df.groupby('Director')['Gross'].mean().sort_values(ascending=False).head(10)
#top 10
# Convert the result to a DataFrame for simplicity
df_director_gross = pd.DataFrame({'Director': director_gross.index, 'Average_Gross': director_gross.values})
df_director_gross
```

	Director	Average_Gross
0	Anthony Russo	5.512599e+08
1	Gareth Edwards	5.321773e+08
2	J.J. Abrams	4.743903e+08
3	Josh Cooley	4.340380e+08
4	Roger Allers	4.227838e+08
5	Tim Miller	3.630707e+08
6	James Gunn	3.614949e+08
7	James Cameron	3.496473e+08
8	Byron Howard	3.412682e+08
9	David Yates	3.263179e+08

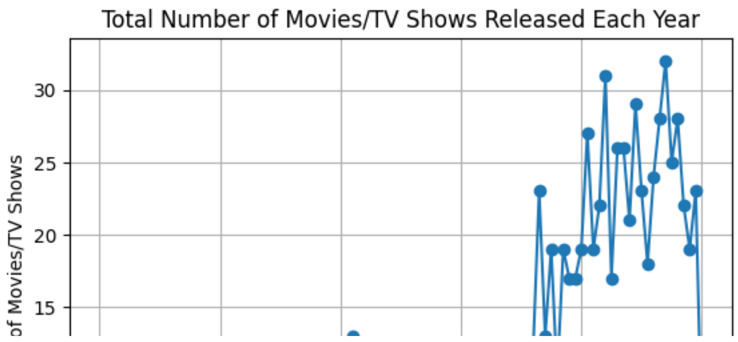
Task 2: Other Potential Analyses:

i) Genre popularity over the years

```
# Group the data by year and calculate the total number of movies/TV shows each year
total_movies_per_year = df.groupby('Release_Year').size()
total_movies_per_year
```

```
Release_Year
1920.0     1
1921.0     1
1922.0     1
1924.0     1
1925.0     2
          ..
2016.0    28
2017.0    22
2018.0    19
2019.0    23
2020.0     6
Length: 99, dtype: int64
```

```
# Plot the total number of movies/TV shows released each year
total_movies_per_year.plot(kind='line', marker='o')
plt.title('Total Number of Movies/TV Shows Released Each Year')
plt.xlabel('Release Year')
plt.ylabel('Number of Movies/TV Shows')
plt.grid(True)
plt.show()
```



ii) Correlation between IMDB ratings and commercial success.

```
# Calculate the correlation between IMDB ratings and gross earnings
correlation = df['IMDB_Rating'].corr(df['Gross'])
correlation
```

```
     0.09592277110132356
```

iii) Impact of movie length on ratings or earnings.

```
#removing min
Duration= df['Runtime'].str.split(' ', expand=True)[0].astype(float)
Duration
```

```
     0      142.0
     1      175.0
     2      152.0
     3      202.0
     4       96.0
            ...
     995    115.0
     996    201.0
     997    118.0
     998     97.0
     999     86.0
     Name: 0, Length: 1000, dtype: float64
```

```
correlation_ratings = df['Duration'].corr(df['IMDB_Rating'])
correlation_ratings
```

```
     0.24309589775419407
```

```
correlation_earnings = df['Duration'].corr(df['Gross'])
correlation_earnings
```

```
     0.13967069065697754
```