IMDB MOVIE ANALYSIS – FINAL REPORT

1. Introduction

- The IMDB 5000 Movie Dataset contains details of over 5,000 movies, including attributes such as title, director, genre, budget, gross revenue, duration, IMDb rating, and number of user votes.
- The objective of this project is to perform a complete data analytics workflow by cleaning the dataset, analyzing it through multiple tools, and deriving meaningful insights.
- This project demonstrates the use of Python, Excel, SQL, and Power BI to explore trends, identify top-performing movies/directors, and visualize patterns in the film industry.

2.Methodology

◈ *Python (Data Cleaning & EDA)*

- Imported dataset using Pandas.
- Cleaned missing values and duplicates.
- Performed Univariate Analysis (IMDb scores, duration, budgets).
- Performed Bivariate Analysis (Budget vs Gross, Genre vs IMDb score). □ Created plots: histograms, scatter plots, boxplots, heatmaps.

◈ *Excel (Pivot & Dashboard)*

➢ Built PivotTables to analyze:

- Top 10 highest-grossing movies.
- Average IMDb rating per genre.
- Movie production trend per year.
- Applied Conditional Formatting:
- Highlighted Top 5 Directors (by movie count).
- Highlighted movies with IMDb score > 8.
- Designed an interactive dashboard with slicers for genre, director, and year.

◈ *SQL (Structured Queries)*

➢ Imported dataset into MySQL.
➢ Executed queries:

- Find top 5 highest-rated movies.
- Get average IMDb score per director.

- List movies with gross > 100M.
- Count movies per genre.
- Find director with most movies.

◈ ***Power BI (Interactive Dashboard)***

- ➢ Imported dataset into Power BI.
- ➢ Built dashboard with visuals:

- Total gross revenue and average IMDb score (KPIs).
- Genre-wise movie distribution. Yearly production trend.
- Scatter plot (Budget vs Gross).
- Added slicers for filtering by genre, director, year.

3.Key Findings & Insights Correlation:

- Higher budgets generally lead to higher gross revenue.
- Genre Popularity: Drama, Comedy, and Action dominate the dataset.
- Directors: Steven Spielberg directed the most movies.
- IMDb Ratings: Most movies fall between 5.5 – 7.5.
- Trends: After 2000, movies show larger budgets and revenues.

4.GitHub Repository :

URL:

https://github.com/swe912mads/IMDB-Movie-Analysis

STRUCTURE:

IMDB-Movie-Analysis

├ Data

| └ imdb_cleaned.csv

├ Python

| ├ data_cleaning.ipynb

| └ EDA.ipynb

├ Excel

| └ Movie_Analysis.xlsx

├ SQL

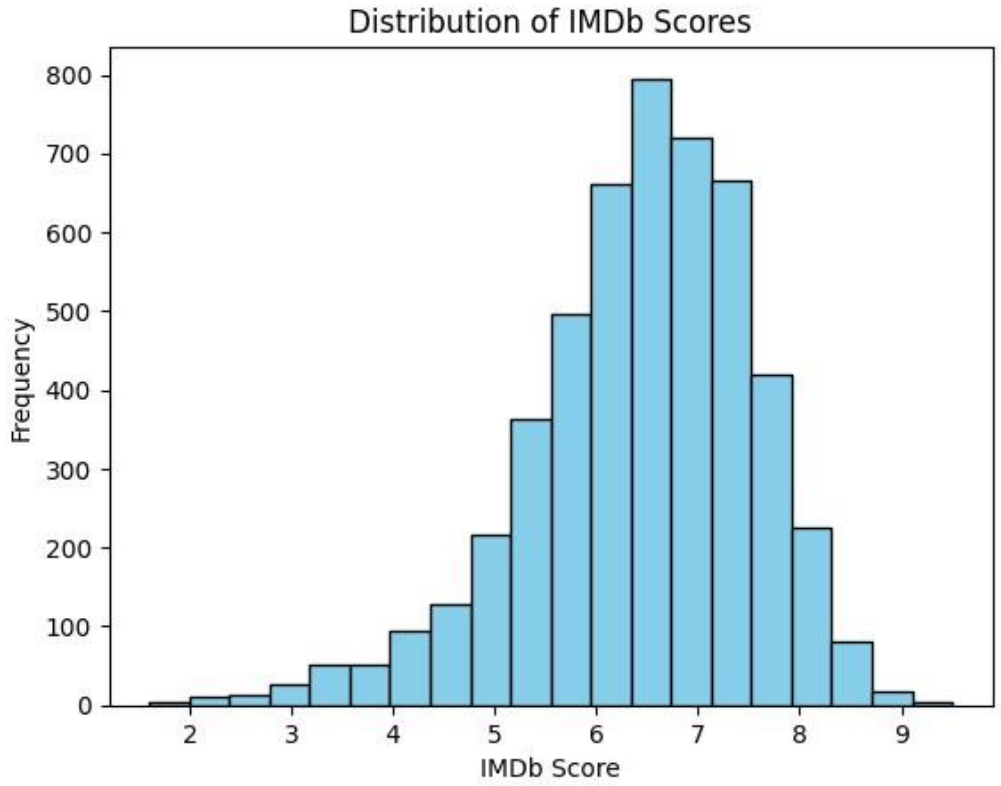
| ├ SQL_Queries.sql

```
|  └ SQL_Results.csv
├ PowerBI
|  └ Movie_Dashboard.pbix
├ Report
|  └ Final_Report.pdf
└ README.md
```

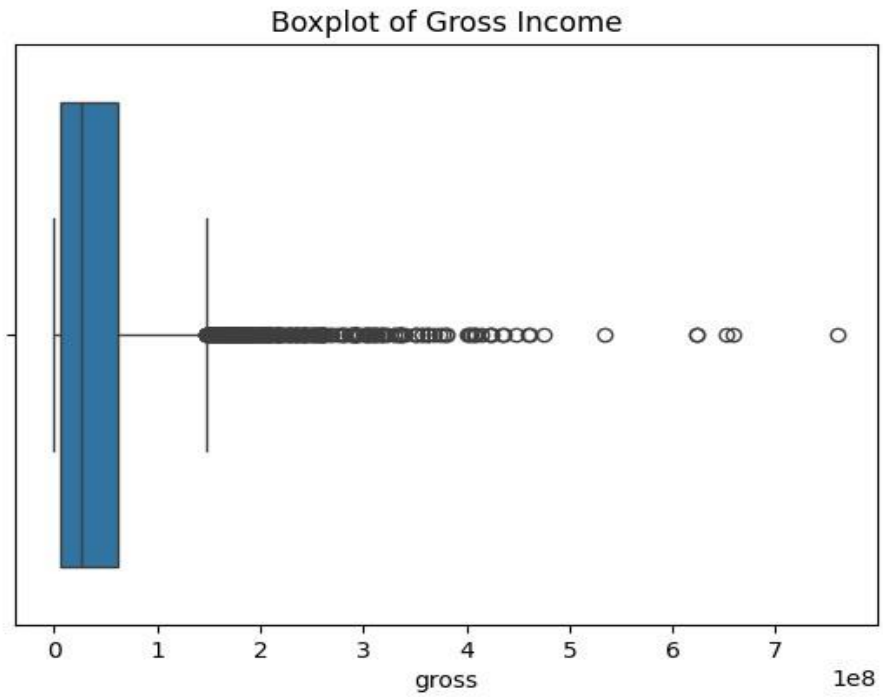
5. Visuals :

Charts &Plots:

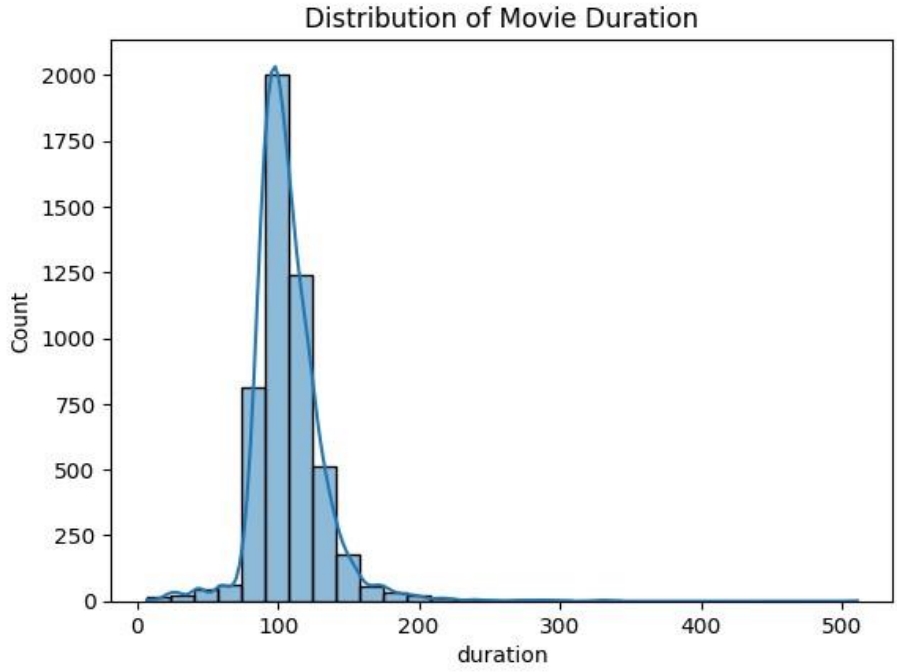
Univariate analysis:



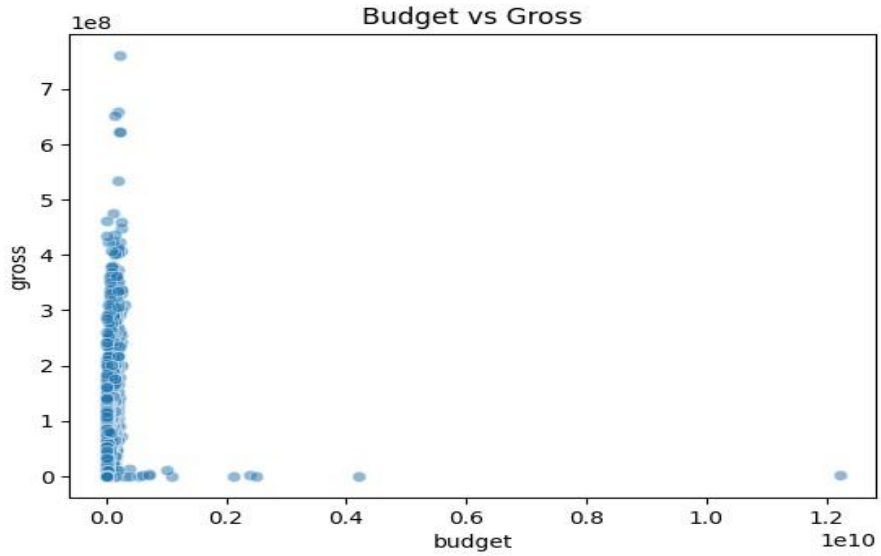
IMDb score distribution



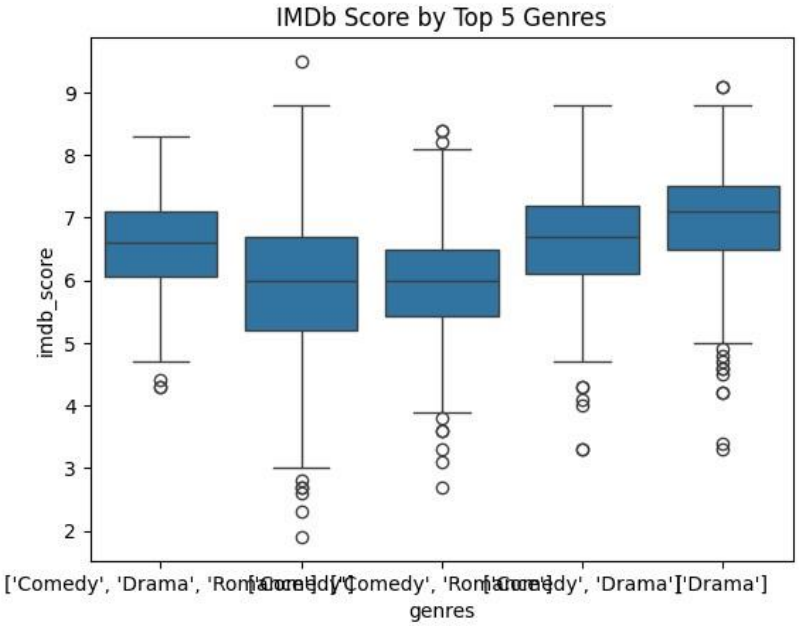
Boxplot of Gross



Duration distribution Bivariate analysis:

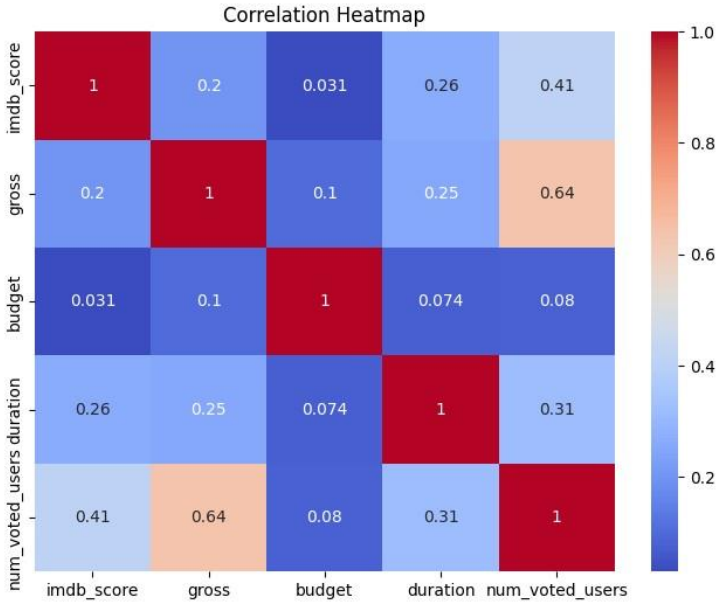


Budget vs Gross



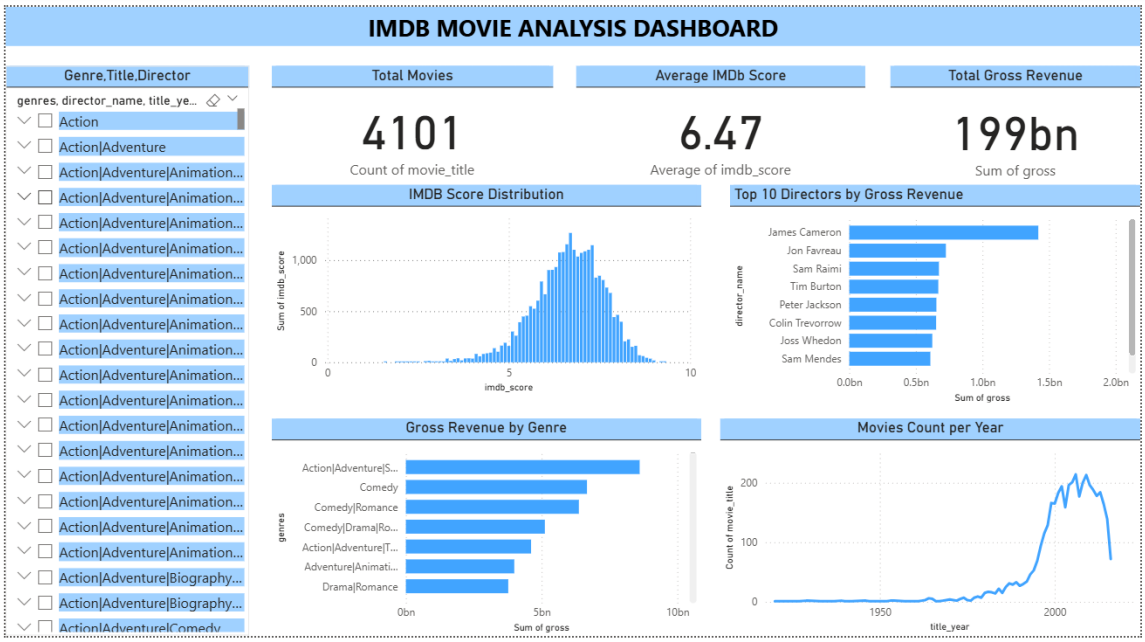
Genre vs IMDb Score

Visualizations using Matplotlib & Seaborn:



Heatmap

Dashboard:



5. Conclusion

This project highlights how multiple tools complement each other in analytics:

- Python – for data cleaning and exploratory analysis.
- Excel – for pivot analysis and dashboards.
- SQL – for structured querying.
- Power BI – for advanced interactive visualizations.

The analysis provided meaningful insights into movie trends, revenue patterns, genre performance, and director contributions.