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St. JOSEPH'S COLLEGE OF ENGINEERING

(An Autonomous Institution)

St. Joseph's Group of Institutions

OMR, Chennai - 119

MINI PROJECT REPORT-DBDS

Project Title:

" Top Rated Movies & Shows – SQL"

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1.Project Overview:

This project titled "Top Rated Movies & Shows – SQL" was undertaken to analyze and visualize Netflix's shows and movies dataset using SQL queries and a web-based front end. The primary goal was to extract insightful data patterns regarding top-rated movies and shows, identify trends across decades, understand country-wise content production, and summarize various age certifications.

The insights were displayed through a well-structured dashboard built using Tableau and a simple frontend, backed by SQL-based data processing. This combination allowed efficient querying, visualization, and sharing of Netflix data.

2.Tools and Techonologies:

i)MySQL: Used for data storage and backend logic.

ii)Tableau: For creating a rich and interactive dashboard.

iii)HTML, CSS, JavaScript: Used for creating the front-end

iv)VS Code: As the development environment.

3. Dataset and Database Design:

The dataset was sourced from publicly available Netflix metadata. It includes key attributes such as:

- Title
- Type (Movie or TV Show)
- IMDB and TMDB ratings
- Age certification
- Production countries
- Release year
- Number of seasons (for shows)

Database Schema: Two main tables were used:

1. **titles** - Contains movie/show metadata
2. **credits** - Contains cast and crew information

Example Fields:

- titles(id, title, type, release_year, imdb_score, tmdb_score, age_certification, country)
- credits(id, name, role, title_id)

The data was cleaned and normalized before importing into MySQL.

4. SQL Queries and Logic:

1.Top 10 IMDB Movies:

QUERY:

```
SELECT title, imdb_score FROM titles
WHERE type = 'Movie' ORDER BY imdb_score DESC LIMIT 10;
```

“ Displays the top-rated 10 movies based on IMDB score.”

2.Bottom 10 IMDB Shows:

QUERY:

```
SELECT title, imdb_score FROM titles
WHERE type = 'Show' ORDER BY imdb_score ASC LIMIT 10;
```

“ Lists the least-rated 10 TV shows.”

3.Top 5 Age Certifications:

QUERY:

```
SELECT age_certification, COUNT(*)
AS total FROM titles GROUP BY age_certification ORDER BY total
DESC LIMIT 5;
```

“Shows the most common age certifications on Netflix.”

4.Average Ratings by Type:

QUERY:

```
SELECT type, AVG(imdb_score) AS
avg_imdb, AVG(tmdb_score) AS avg_tmdb FROM titles GROUP BY
type;
```

“Compares average IMDB and TMDB scores between movies and shows.”

5. Frontend Integration:

The frontend of this project was built with simplicity, clarity, and responsiveness in mind. It acts as the presentation layer where users can interact with and view the results of SQL queries executed on the backend.

✅ Technologies Used:

- HTML & CSS – For structure and styling
- JavaScript – For dynamic rendering
- Node.js – Backend to handle SQL queries
- MySQL – Database system
- Tableau Public – To embed visual dashboards

✅ Key Features:

🔹 Data Fetching:

- SQL queries executed via Node.js backend
- API routes fetch results like top movies, genres, ratings
- Data displayed in HTML tables via JSON responses

🔹 Table Display:

- Cleanly styled tables with hover effects
- Alternating row colors for better readability
- Columns include title, genre, rating, etc.

🔹 Embedded Visuals:

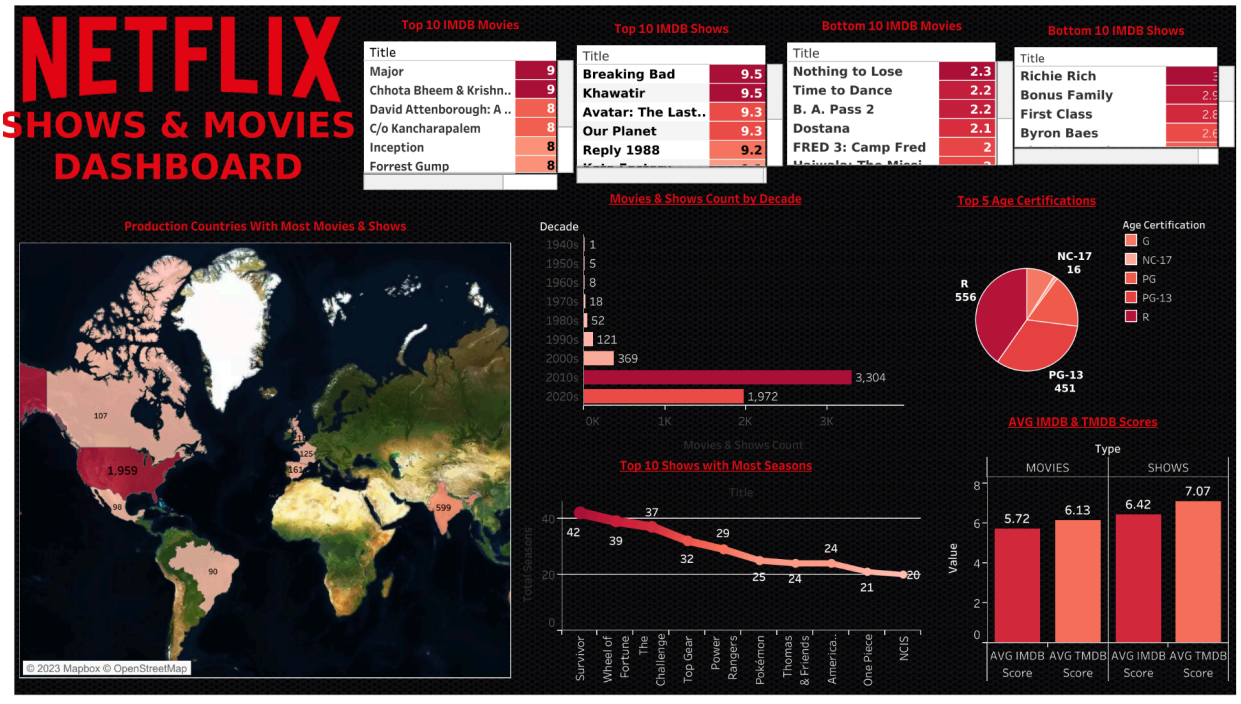
- Interactive Tableau Dashboard embedded with iframe
- Visual insights on genres, ratings, actors, etc.
- Filterable and scrollable for better UX

6.Output Screenshots

This section showcases the final visual dashboard built using Tableau, embedded within the web app interface.

📊 Dashboard Highlights:

- Top/Bottom 10 IMDB Movies & Shows – Highlights best and worst-rated content.
- Production by Country (Choropleth Map) – Displays geographical spread of Netflix productions.
- Movie/Show Counts by Decade – Visual timeline showing the rise of content over decades.
- Top 5 Age Certifications (Pie Chart) – Shares popular content rating categories.
- Top 10 Shows with Most Seasons – Identifies long-running successful shows.
- Average IMDB and TMDB Scores by Type (Bar Graph) – Compares rating trends between movies and shows.



The dashboard is interactive, visually engaging, and incorporates filters, hover tooltips, and color-coded graphs to improve readability. These visuals help users gain quick insights from the large dataset

7. Conclusion:

This project served as an insightful introduction into working with real-world entertainment data using SQL and modern frontend tools. Through this mini project,

I was able to:

- Understand relational database design and query optimization
- Build meaningful visualizations to identify trends
- Learn how to use Tableau for powerful dashboards
- Link data outputs to a web frontend for user-friendly access

Challenges Faced:

- Cleaning and normalizing a large and inconsistent dataset
- Learning to create filters and visual mappings in Tableau
- Ensuring responsive frontend integration

Overall, the project enhanced my technical and analytical skills, preparing me for more complex data-driven applications in the future.