

MOVIE STREAMING ANALYTICS PROJECT

SQL & PostgreSQL
Portfolio
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Intro / Project Context

This project analyzes a movie streaming platform dataset using PostgreSQL queries to understand user behavior, content preferences, and engagement trends.

We explore top users, most watched movies, genre popularity, and rating patterns.

Each analysis provides actionable insights to support content strategy, marketing, and user retention."

Dataset & Tables Overview

1. Users

User information: user_id, name, email, join_date, country

2. Movies

Movie details: movie_id, title, genre, release_year, duration_min

3. Subscriptions

Tracks plans: subscription_id, user_id, plan, price, start_date, end_date

4. WatchHistory

Logs viewing: watch_id, user_id, movie_id, watch_date, watch_duration

5. Ratings

Stores movie ratings: rating_id, user_id, movie_id, rating

TOP 5 USERS BY WATCH DURATION

```
SELECT user_id, SUM(watch_duration) AS total_duration  
FROM WatchHistory  
GROUP BY user_id --  
ORDER BY total_duration DESC  
LIMIT 5;
```

OUTPUT

	user_id integer	total_duration bigint
1	43	992
2	25	801
3	50	759
4	18	718
5	36	662

Insights:

This shows the most active users on the platform by their total watch time. It helps to identify highly engaged customers who are likely loyal subscribers.

RANK USERS BY TOTAL WATCH DURATION

```
SELECT user_id,  
       SUM(watch_duration) AS total_duration,  
       RANK() OVER (ORDER BY SUM(watch_duration) DESC) AS rank  
FROM WatchHistory  
GROUP BY user_id  
ORDER BY rank;
```

OUTPUT

Insight:
“This query ranks users by total watch time, highlighting the most active viewers and helping identify top engagement patterns.”

	user_id integer	total_duration bigint	rank bigint
1	43	992	1
2	25	801	2
3	50	759	3
4	18	718	4
5	36	662	5
6	20	650	6
7	47	643	7





MOST POPULAR GENRE BY WATCHES



```
SELECT m.genre, COUNT(w.watch_id) AS total_watches  
FROM WatchHistory w  
JOIN Movies m ON w.movie_id = m.movie_id  
GROUP BY m.genre  
ORDER BY total_watches DESC;
```



OUTPUT

Insight:
This highlights the most watched movie genre. It helps the business know which genres attract the most users and should be prioritized.

	genre character varying (50)	total_watches bigint
1	Thriller	45
2	Drama	38
3	Romance	35
4	Documentary	34
5	Action	26
6	Comedy	22



TOP 3 MOVIES BY TOTAL WATCH DURATION

```
SELECT movie_id, SUM(watch_duration) AS total_duration  
FROM WatchHistory  
GROUP BY movie_id  
ORDER BY total_duration DESC  
LIMIT 3;
```



OUTPUT

	movie_id integer 	total_duration bigint 
1	49	910
2	16	843
3	27	821

Insight:

This highlights the most watched movie genre. It helps the business know which genres attract the most users and should be prioritized.

TOP MOVIE PER GENRE BY TOTAL WATCH DURATION

```
SELECT *
FROM (
    SELECT m.genre, m.movie_id, SUM(w.watch_duration) AS total_duration,
           ROW_NUMBER() OVER (PARTITION BY m.genre ORDER BY SUM(w.watch_duration) DESC) AS rank
    FROM WatchHistory w
    JOIN Movies m ON w.movie_id = m.movie_id
    GROUP BY m.genre, m.movie_id
) sub
WHERE rank=1;
```

OUTPUT

Insight:

“This query finds the top movie in each genre by total watch time, showing which titles drive the most engagement per category.”

	genre character varying (50)	movie_id [PK] integer	total_duration bigint	rank bigint
1	Action	43	724	1
2	Comedy	2	647	1
3	Documentary	28	535	1
4	Drama	38	675	1
5	Romance	27	821	1



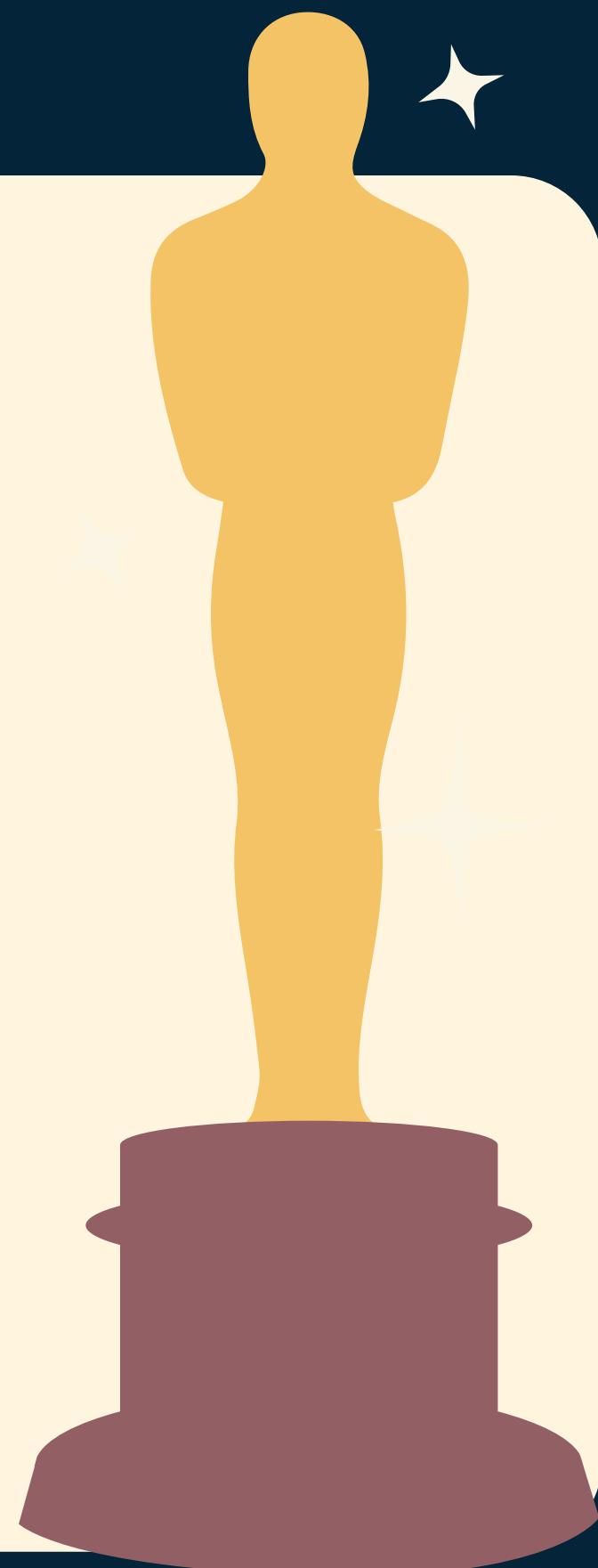
MOVIES WITH HIGHEST AVERAGE RATING

```
SELECT movie_id, AVG(rating) AS avg_rating  
FROM Ratings  
GROUP BY movie_id  
ORDER BY avg_rating DESC  
LIMIT 5;
```

OUTPUT

Insight:
Identifies the movies most loved by users based on ratings. This shows what type of content gains the highest satisfaction.

	movie_id integer	avg_rating numeric
1	13	5.000000000000000
2	43	5.000000000000000
3	9	5.000000000000000
4	14	4.500000000000000
5	5	4.500000000000000



TRENDING MOVIES LAST 7 DAYS

```
SELECT movie_id, COUNT(*) AS views_last_week  
FROM WatchHistory  
WHERE watch_date >= CURRENT_DATE - INTERVAL '7 days'  
GROUP BY movie_id  
ORDER BY views_last_week DESC  
LIMIT 5;
```

OUTPUT

Insights:
Shows movies that are currently trending. This gives an up-to-date view of popular content driving recent engagement.

	genre character varying (50)	movie_id [PK] integer	total_duration bigint	rank bigint
1	Action	43	724	1
2	Comedy	2	647	1
3	Documentary	28	535	1
4	Drama	38	675	1
5	Romance	27	821	1



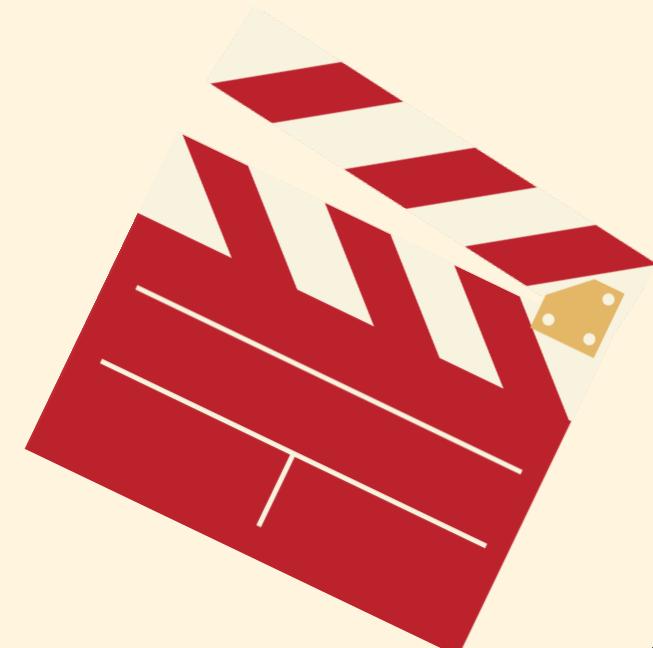
TOP 3 MOVIES BY TOTAL WATCH DURATION

```
SELECT movie_id, SUM(watch_duration) AS total_duration  
FROM WatchHistory  
GROUP BY movie_id  
ORDER BY total_duration DESC  
LIMIT 3;
```

OUTPUT

Insight:
“This query shows the top 3 movies with the highest total watch time, highlighting the most binge-watched and engaging titles overall.”

	movie_id integer	total_duration bigint
1	49	910
2	16	843
3	27	821



TOTAL REVENUE PER MONTH

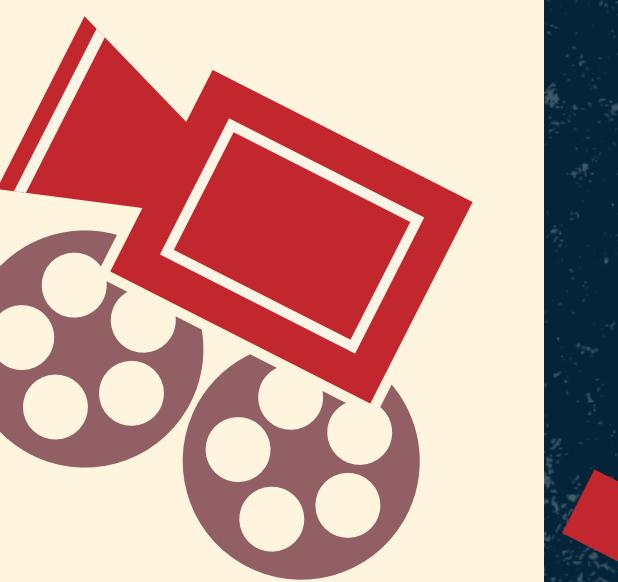
```
SELECT EXTRACT(MONTH FROM s.start_date) AS month, SUM(s.price) AS revenue  
FROM Subscriptions s  
GROUP BY month  
ORDER BY month;
```

OUTPUT

Insight:

“This query calculates total revenue month by month, helping track earnings trends and identify peak revenue periods.

	genre character varying (50)	movie_id [PK] integer	total_duration bigint	rank bigint
1	Action	43	724	1
2	Comedy	2	647	1
3	Documentary	28	535	1
4	Drama	38	675	1
5	Romance	27	821	1



TOTAL MOVIES WATCHED PER GENRE

```
SELECT m.genre, COUNT(*) AS total_watches
FROM WatchHistory w
JOIN Movies m ON w.movie_id = m.movie_id
GROUP BY m.genre;
```

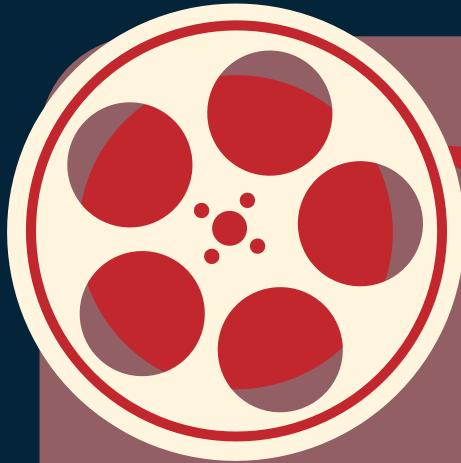
OUTPUT

	genre character varying (50)	total_watches bigint
1	Thriller	45
2	Romance	35
3	Comedy	22
4	Drama	38
5	Documentary	34

Insight:

“This query shows how many movies were watched in each genre, helping identify audience preferences and popular content types.”

MOVIES WITH DURATION BETWEEN 90 AND 150



```
SELECT * FROM Movies  
WHERE duration_min BETWEEN 90 AND 150;
```

OUTPUT

	movie_id [PK] integer	title character varying (100)	genre character varying (50)	release_year integer	duration_min integer
1	1	Movie_1	Documentary	2017	148
2	3	Movie_3	Thriller	2018	131
3	4	Movie_4	Comedy	2007	97
4	5	Movie_5	Romance	2015	91
5	6	Movie_6	Action	2003	99

Insight:

"This query lists movies with a medium duration (90–150 mins), useful for analyzing standard-length films preferred by audiences."



TOP 3 COUNTRIES BY TOTAL WATCH DURATION

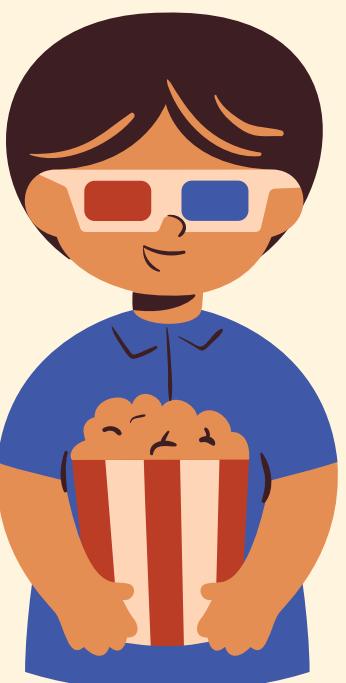
```
SELECT u.country, SUM(w.watch_duration) AS total_duration  
FROM WatchHistory w  
JOIN Users u ON w.user_id=u.user_id  
GROUP BY u.country  
ORDER BY total_duration DESC  
LIMIT 3;
```

OUTPUT

	country character varying (50)	total_duration bigint
1	Bhutan	4944
2	India	4476
3	UK	4277

Insight:

“This query identifies the top 3 countries with the highest total watch duration, showing where user engagement is strongest globally.”





THANK YOU

For viewing my Movie Streaming Analytics Project

