

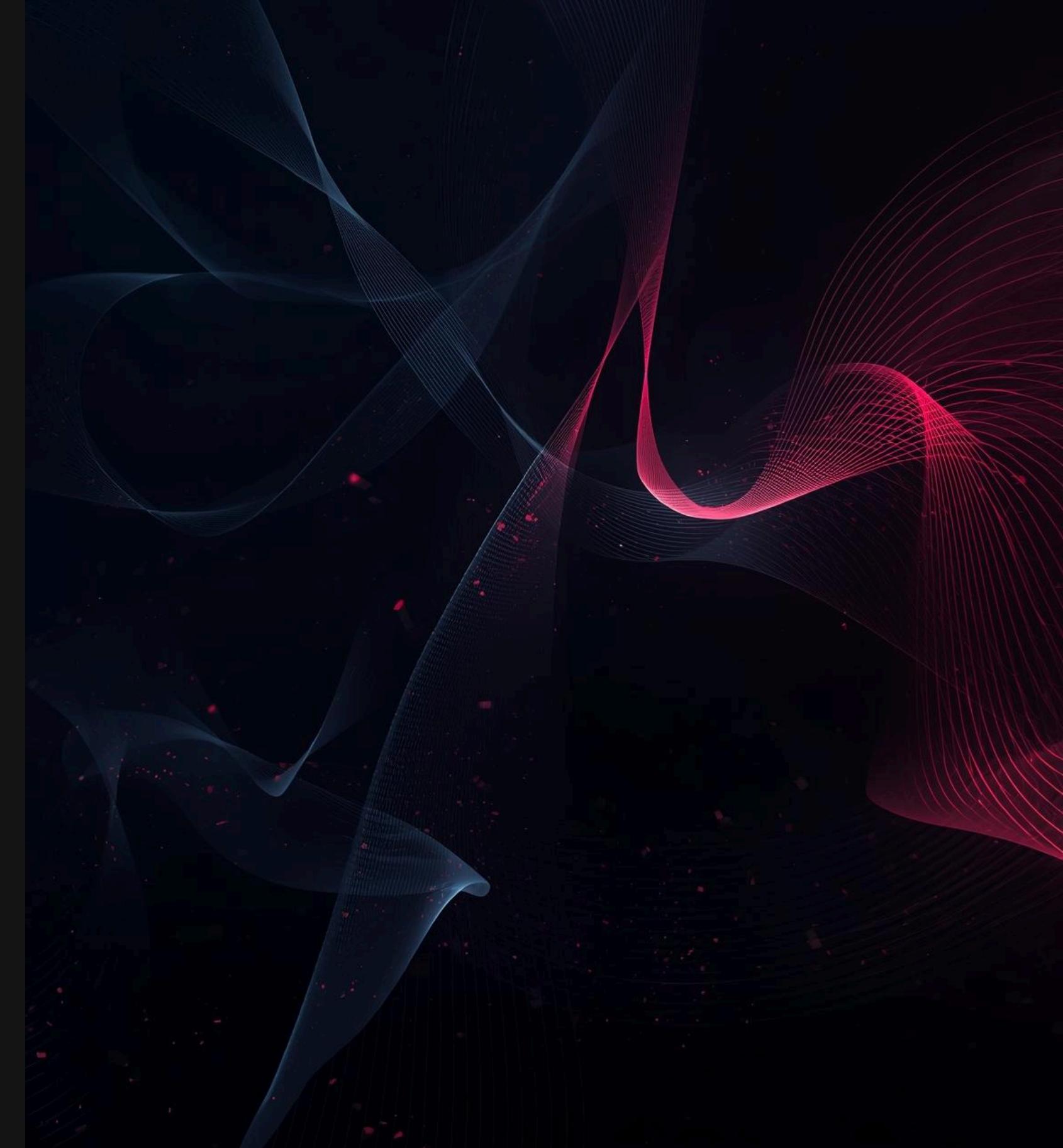
# Netflix Content Analysis Using SQL

This presentation analyzes Netflix's content dataset using SQL to uncover trends in content production, genre dominance, country contribution, rating distribution, and year-over-year growth patterns.



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# Project Objective

The objective of this project is to analyze Netflix content data using SQL to uncover trends in content production, genre distribution, country contribution, ratings patterns, and growth over time. The goal is to derive meaningful business insights that can support strategic decision-making and content planning.





# Problem Statement:

With the rapid expansion of streaming platforms, understanding content distribution, genre trends, and production patterns has become crucial for strategic decision-making. However, raw content data alone does not provide meaningful insights. This project aims to analyze Netflix's content dataset using SQL to identify trends in content type distribution, genre dominance, country-wise production, rating patterns, and year-over-year growth in order to uncover actionable insights about Netflix's content strategy.

# SQL Queries Overview

## Key insights from streaming data

This section highlights the SQL queries used to analyze Netflix's content catalog, uncovering trends in genre distribution, country-wise production, rating patterns, content growth, and release trends over time.

### Most Dominant Genres

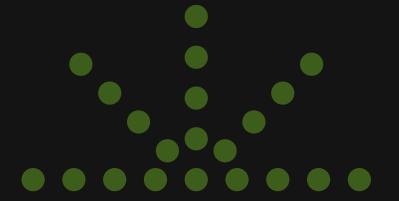
Identifies the most frequently occurring genres overall and year-wise to understand content preference trends and genre dominance patterns

### Content Growth Trends

Analyzes year-over-year growth in content addition to detect expansion phases and potential content gaps.

### Country & Director Analysis

Examines country-wise production volume and directors contributing significantly to Netflix's content catalog.



# 1. Retrieve all records where the content type is Movie.

```
SELECT
  *
FROM
  netflix_project
WHERE
  type = 'Movie';
```

show_id	type	title	director	cast	country
s1	Movie	Dick Johnson Is Dead	Kirsten Johnson		United States
s7	Movie	My Little Pony: A New Generation	Robert Cullen, JosÃ© Luis Ucha	Vanessa Hudgens, Kimiko Glenn, James Marsden...	
s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmike Ogunlano, Alexander...	United States, Ghana, E...
s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy, Chris O'Dowd, Kevin Kline, Ti...	United States

## 2. Count the total number of Movies and TV Shows available.

```
SELECT
    type,
    COUNT(*) AS total_count
FROM
    netflix_project
WHERE
    type IN ('Movie', 'TV Show')
GROUP BY
    type;
```

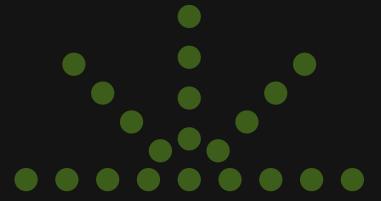
	type	total_count
▶	Movie	55
	TV Show	45

# 3. List all unique countries where Netflix content is produced.

```
SELECT DISTINCT  
    title,  
    country  
FROM  
    netflix_project  
WHERE  
    country IS NOT NULL  
ORDER BY  
    title;
```

	title	country
▶	A StoryBots Space Adventure	
	Angr Birds	Finland
	Ankahi Kahaniya	
	Avvai Shanmughi	
	Bangkok Breaking	

# 4. Find the oldest movie available on Netflix.



```
SELECT  
    title, release_year  
FROM  
    netflix_project  
WHERE  
    type = 'Movie'  
ORDER BY release_year ASC  
LIMIT 1;
```

	title	release_year
▶	Jaws	1975

# 5. Display all titles released after 2018.



```
SELECT  
    title, release_year  
FROM  
    netflix_project  
WHERE  
    release_year > 2018  
ORDER BY release_year;
```

	title	release_year
▶	Paradise Hills	2019
	Titipo Titipo	2019
	Tobot Galaxy Detectives	2019
	Dick Johnson Is Dead	2020
	Omo Ghetto: the Saga	2020

# 6. Identify content records where director information is missing.



```
SELECT
  *
FROM
  netflix_project
WHERE
  director IS NULL OR director = '';
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
▶	s2	TV Show	Blood & Water		Ama Qamata, Khosi Ngema, Gail Mabalane, Tha...	South Africa	September 24, 2021	2021	TV-MA	2 Season
	s4	TV Show	Jailbirds New Orleans				September 24, 2021	2021	TV-MA	1 Season
	s5	TV Show	Kota Factory		Mayur More, Jitendra Kumar, Ranjan Raj, Alam ...	India	September 24, 2021	2021	TV-MA	2 Season
	s11	TV Show	Vendetta: Truth, Lies and The Mafia				September 24, 2021	2021	TV-MA	1 Season

# 7. Count the number of titles added to Netflix each year.



```
SELECT  
    RIGHT(date_added, 4) AS year_added,  
    COUNT(*) AS total_titles_added  
FROM  
    netflix_project  
WHERE  
    date_added IS NOT NULL  
GROUP BY  
    RIGHT(date_added, 4)  
ORDER BY  
    year_added ASC;
```

	year_added	total_titles_added
▶	2021	100

# 8. List titles with a rating of ‘TV-MA’.



```
SELECT  
    title, rating  
FROM  
    netflix_project  
WHERE  
    rating = 'TV-MA';
```

	title	rating
▶	Blood & Water	TV-MA
	Ganglands	TV-MA
	Jailbirds New Orleans	TV-MA
	Kota Factory	TV-MA
	Midnight Mass	TV-MA

# 9. Find the top 5 countries with the highest number of Netflix titles.

```
SELECT
    country,
    COUNT(*) AS total_titles
FROM
    netflix_project
WHERE
    country IS NOT NULL
GROUP BY
    country
ORDER BY
    total_titles DESC
LIMIT 5;
```

	country	total_titles
		41
	United States	17
	Japan	13
	India	6
	United Kingdom	5

# 10.Determine the most common rating for Movies and TV Shows separately

```
SELECT
    rating, COUNT(*) AS total_count
FROM
    netflix_project
WHERE
    type = 'Movie' AND rating IS NOT NULL
GROUP BY rating
ORDER BY total_count DESC
LIMIT 1;
```

```
SELECT
    rating, COUNT(*) AS total_count
FROM
    netflix_project
WHERE
    type = 'TV Show' AND rating IS NOT NULL
GROUP BY rating
ORDER BY total_count DESC
LIMIT 1;
```

	rating	total_count
▶	TV-PG	12

	rating	total_count
▶	TV-MA	22

# 11. Calculate the average duration of movies (in minutes).



```
SELECT
    ROUND(AVG(SUBSTRING_INDEX(duration, ' ', 1)), 2) AS average_movie_duration
FROM
    netflix_project
WHERE
    type = 'Movie';
```

	average_movie_duration
▶	100.73



# 12. Find the most popular genre on Netflix.

```
SELECT  
    listed_in,  
    COUNT(*) AS total_titles  
FROM  
    netflix_project  
WHERE  
    listed_in IS NOT NULL  
GROUP BY  
    listed_in  
ORDER BY  
    total_titles DESC  
LIMIT 1;
```

	listed_in	total_titles
▶	Action & Adventure, Anime Features, Internati...	12



# 12. Find the most popular genre on Netflix.

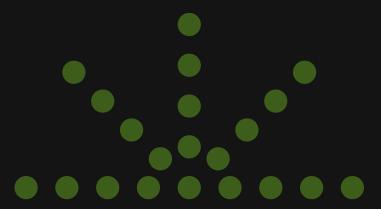
```
SELECT  
    listed_in,  
    COUNT(*) AS total_titles  
FROM  
    netflix_project  
WHERE  
    listed_in IS NOT NULL  
GROUP BY  
    listed_in  
ORDER BY  
    total_titles DESC  
LIMIT 1;
```

	listed_in	total_titles
▶	Action & Adventure, Anime Features, Internati...	12

# 13. Identify which year had the highest number of releases.

```
SELECT  
    release_year, COUNT(*) AS total_release  
FROM  
    netflix_project  
GROUP BY release_year  
ORDER BY release_year DESC  
LIMIT 1;
```

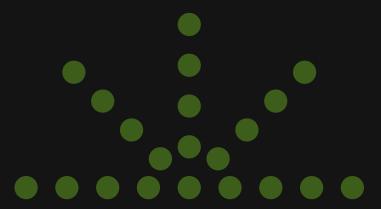
	release_year	total_release
▶	2021	53



# 14. List directors who have directed more than 5 titles.

```
SELECT
    director, COUNT(*) AS total_titles
FROM
    netflix_project
WHERE
    director IS NOT NULL
GROUP BY director
HAVING COUNT(*) > 5
ORDER BY total_titles DESC;
```

	director	total_titles
▶		39



# 15. Find content that belongs to multiple genres.

```
SELECT  
    title,  
    listed_in  
FROM  
    netflix_project  
WHERE  
    listed_in LIKE '%,%';
```

	title	listed_in
▶	Blood & Water	International TV Shows, TV Dramas, TV Mysteries
	Ganglands	Crime TV Shows, International TV Shows, TV Ac...
	Jailbirds New Orleans	Docuseries, Reality TV
	Kota Factory	International TV Shows, Romantic TV Shows, TV...
	Midnight Mass	TV Dramas, TV Horror, TV Mysteries

# 16. Compare the number of Movies vs TV Shows added year-wise.



```
SELECT
    RIGHT(date_added, 4) AS year_added,
    type,
    COUNT(*) AS total_added
FROM
    netflix_project
WHERE
    date_added IS NOT NULL
GROUP BY
    RIGHT(date_added, 4),
    type
ORDER BY
    year_added ASC, type;
```

	year_added	type	total_added
▶	2021	Movie	55
	2021	TV Show	45

# 17. Identify countries producing only Movies and not TV Shows.

```
SELECT
    country
FROM
    netflix_project
WHERE
    country IS NOT NULL
GROUP BY
    country
HAVING
    SUM(CASE WHEN type = 'Movie' THEN 1 ELSE 0 END) > 0
    AND
    SUM(CASE WHEN type = 'TV Show' THEN 1 ELSE 0 END) = 0;
```

	country
▶	United States, Ghana, Burkina Faso, United Kin...
	Germany, Czech Republic
	United States, India, France
	China, Canada, United States
	South Africa, United States, Japan

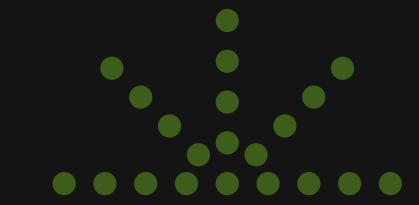


# 18. Rank countries based on the number of titles produced.

```
SELECT
    country,
    COUNT(*) AS total_titles,
    RANK() OVER (ORDER BY COUNT(*) DESC) AS country_rank
FROM
    netflix_project
WHERE
    country IS NOT NULL
GROUP BY
    country
ORDER BY
    country_rank;
```

	country	total_titles	country_rank
		41	1
	United States	17	2
	Japan	13	3
	India	6	4
	United Kingdom	5	5

# 19. Identify year-over-year growth in content addition.



```
WITH yearly_data AS (
  SELECT
    RIGHT(date_added, 4) AS year_added,
    COUNT(*) AS total_added
  FROM
    netflix_project
  WHERE
    date_added IS NOT NULL
  GROUP BY
    RIGHT(date_added, 4)
)
```

```
SELECT
  year_added,
  total_added,
  total_added - LAG(total_added) OVER (ORDER BY year_added) AS yoy_growth
FROM
  yearly_data
ORDER BY
  year_added;
```

	year_added	total_added	yoy_growth
▶	2021	100	NULL

# 20. Find the top 3 genres per country.



```
WITH genre_split AS (
  SELECT
    country,
    TRIM(SUBSTRING_INDEX(SUBSTRING_INDEX(listed_in, ',', numbers.n), ',', -1)) AS genre
  FROM
    netflix_project
  JOIN
    (SELECT 1 n UNION SELECT 2 UNION SELECT 3 UNION SELECT 4 UNION SELECT 5) numbers
    ON CHAR_LENGTH(listed_in) - CHAR_LENGTH(REPLACE(listed_in, ',', '')) >= numbers.n - 1
  WHERE
    country IS NOT NULL
),
```

```
genre_count AS (
  SELECT
    country,
    genre,
    COUNT(*) AS total_titles
  FROM
    genre_split
  GROUP BY
    country, genre
)
```

```
FROM (
  SELECT
    country,
    genre,
    total_titles,
    RANK() OVER (PARTITION BY country ORDER BY total_titles DESC) AS rank_num
  FROM
    genre_count
) ranked
WHERE
  rank_num <= 3
ORDER BY
  country, rank_num;
```

	country	genre	total_titles
		International Movies	11
		International TV Shows	8
		Children & Family Movies	8
	Australia	Reality TV	1
	Australia	International TV Shows	1



# 21. Calculate the percentage contribution of each content type (Movie vs TV Show).

```
SELECT
    type,
    COUNT(*) AS total_count,
    ROUND(
        COUNT(*) * 100.0 / (SELECT COUNT(*) FROM netflix_project),
        2
    ) AS percentage_contribution
FROM
    netflix_project
GROUP BY
    type;
```

	type	total_count	percentage_contribution
▶	Movie	55	55.00
	TV Show	45	45.00

# 22. Use window functions to rank years by content release count.



```
SELECT
    release_year,
    COUNT(*) AS total_releases,
    RANK() OVER (ORDER BY COUNT(*) DESC) AS year_rank
FROM
    netflix_project
GROUP BY
    release_year
ORDER BY
    year_rank;
```

	release_year	total_releases	year_rank
▶	2021	53	1
	2020	8	2
	2018	4	3
	2013	3	4
	2019	3	4

# 23. Identify directors whose content consistently receives higher maturity ratings.

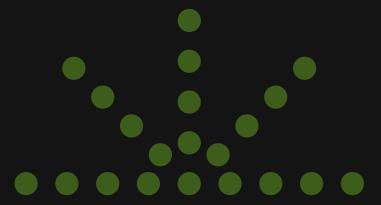


```
SELECT
    director,
    COUNT(*) AS total_titles
FROM
    netflix_project
WHERE
    director IS NOT NULL
GROUP BY
    director
```

```
HAVING
    SUM(CASE
        WHEN rating IN ('TV-MA', 'R', 'NC-17')
        THEN 1
        ELSE 0
    END) = COUNT(*);
```

	director	total_titles
▶	Julien Ledercq	1
	Mike Flanagan	1
	Haile Gerima	1
	Kongkiat Komesiri	1
	Christian Schwochow	1

# 24. Detect content gaps (years with unusually low releases).



```
WITH yearly_counts AS (
  SELECT
    release_year,
    COUNT(*) AS total_releases
  FROM
    netflix_project
  GROUP BY
    release_year
)
```

```
SELECT
  release_year,
  total_releases
FROM
  yearly_counts
WHERE
  total_releases < (
    SELECT AVG(total_releases)
    FROM yearly_counts
  )
ORDER BY
  total_releases ASC;
```

	release_year	total_releases
▶	1993	1
	1996	1
	1998	1
	1997	1
	1975	1

# 25. Analyze the shift in content type trend over the last decade.



```
SELECT
    release_year,
    SUM(CASE WHEN type = 'Movie' THEN 1 ELSE 0 END) AS total_movies,
    SUM(CASE WHEN type = 'TV Show' THEN 1 ELSE 0 END) AS total_tv_shows
FROM
    netflix_project
WHERE
    release_year >= YEAR(CURDATE()) - 10
GROUP BY
    release_year
ORDER BY
    release_year ASC;
```

	release_year	total_movies	total_tv_shows
▶	2017	1	1
	2018	2	2
	2019	1	2
	2020	4	4
	2021	22	31



# 26. Determine the most dominant genre each year.

```
WITH genre_split AS (
  SELECT
    release_year,
    TRIM(SUBSTRING_INDEX(SUBSTRING_INDEX(listed_in, ',', numbers.n), ',', -1)) AS genre
  FROM
    netflix_project
  JOIN
    (SELECT 1 n UNION SELECT 2 UNION SELECT 3 UNION SELECT 4 UNION SELECT 5) numbers
  ON CHAR_LENGTH(listed_in) - CHAR_LENGTH(REPLACE(listed_in, ',', '')) >= numbers.n - 1
),
```

```
genre_count AS (
  SELECT
    release_year,
    genre,
    COUNT(*) AS total_titles
  FROM
    genre_split
  GROUP BY
    release_year, genre
)
```

```
SELECT
  release_year,
  genre,
  total_titles
FROM (
  SELECT
    release_year,
    genre,
    total_titles,
    RANK() OVER (PARTITION BY release_year ORDER BY total_titles DESC) AS rank_num
  FROM
    genre_count
) ranked
WHERE
  rank_num = 1
ORDER BY
  release_year;
```

	release_year	genre	total_titles
▶	1975	Dramas	1
	1975	Classic Movies	1
	1975	Action & Adventure	1
	1978	Thrillers	1
	1978	Horror Movies	1

# 27. Find countries where Netflix content growth is declining.



```
• WITH yearly_country_data AS (
    SELECT
        country,
        RIGHT(date_added, 4) AS year_added,
        COUNT(*) AS total_added
    FROM
        netflix_project
    WHERE
        country IS NOT NULL
        AND date_added IS NOT NULL
    GROUP BY
        country, RIGHT(date_added, 4)
),
```

```
growth_data AS (
    SELECT
        country,
        year_added,
        total_added,
        total_added - LAG(total_added)
            OVER (PARTITION BY country ORDER BY year_added) AS yoy_growth
    FROM
        yearly_country_data
)
```

```
SELECT
    country,
    year_added,
    total_added,
    yoy_growth
FROM
    growth_data
WHERE
    yoy_growth < 0
ORDER BY
    country, year_added;
```

	country	year_added	total_added	yoy_growth



# Summary

This project analyzed Netflix's content dataset using SQL to uncover meaningful insights about content distribution, genre dominance, country-wise production, rating patterns, and year-over-year growth trends. Through data cleaning, aggregation, conditional logic, and window functions, the analysis highlighted strategic shifts in content focus, dominant genres across years, and production trends across countries.



# Thank you



Netflix Project

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