Data Analysis

By Nishant Pratap Singh

Introduction

This project explores the Netflix titles dataset using SQL queries to uncover patterns and insights about movies and TV shows available on the platform. The dataset contains information such as title, type, director, cast, country, release year, rating, duration, genre, and date added to Netflix.

By applying structured SQL queries, the project demonstrates how to efficiently analyze large datasets and transform raw data into meaningful insights.

Objective

1. **Data Exploration – Understand the structure of the Netflix dataset and identify key attributes for analysis.**

2. **Querying with SQL – Apply SQL techniques such as filtering, aggregation, grouping, and joins to answer analytical questions.**

3. **Content Insights – Analyze Netflix's catalog distribution across movies and TV shows, release trends, and geographic patterns.**

4. **Category Classification – Categorize titles based on ratings, genres, and duration better segmentation.**

5. **Trend Analysis – Explore how content additions vary across countries and years, highlighting Netflix's global expansion.**

Listing Titles with Show ID, Title & Type

NETFLIX

```
Select
show_id, title , type
From Netflix
```

	show_id	title	type
1	s1	Dick Johnson Is Dead	Movie
2	s2	Blood & Water	TV Show
3	s3	Ganglands	TV Show
4	s4	Jailbirds New Orleans	TV Show
5	s5	Kota Factory	TV Show
6	s6	Midnight Mass	TV Show
7	s7	My Little Pony: A New Generation	Movie

Displaying all columns for Movie Titles

```sql
Select *
From netflix
Where type = 'Movie' ;
```


	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	date_added_date	title_length
1	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	No Data Available	United States	September 25, 2021	2020	PG-13	90 min	Documentaries	As her father nears...	2021-09-25	20
2	s7	Movie	My Little Pony: A New Generat...	Robert Cullen, José Luis Uc...	Vanessa Hudgens, Kimik...	No Data Available	September 24, 2021	2021	PG	91 min	Children & Famil...	Equestria's divided...	2021-09-24	32
3	s8	Movie	Sankofa	Haile Gerima	Kofi Ghanaba, Oyafunmik...	United States, Ghana, B...	September 24, 2021	1993	TV-MA	125 min	Dramas, Independ...	On a photo shoot i...	2021-09-24	7
4	s10	Movie	The Starling	Theodore Melfi	Melissa McCarthy, Chris ...	United States	September 24, 2021	2021	PG-13	104 min	Comedies, Dram...	A woman adjustin...	2021-09-24	12
5	s13	Movie	Je Suis Karl	Christian Schwochow	Luna Wedler, Jannis Niew...	Germany, Czech Republic	September 23, 2021	2021	TV-MA	127 min	Dramas, Internat...	After most of her f...	2021-09-23	12
6	s14	Movie	Confessions of an Invisible Girl	Bruno Garotti	Klara Castanho, Lucca Pi...	No Data Available	September 22, 2021	2021	TV-PG	91 min	Children & Famil...	When the clever bu...	2021-09-22	32
7	s17	Movie	Europe's Most Dangerous Ma...	Pedro de Echave García, Pa...	No Data Available	No Data Available	September 22, 2021	2020	TV-MA	67 min	Documentaries, ...	Declassified docu...	2021-09-22	51
8	s19	Movie	Intrusion	Adam Salky	Freida Pinto, Logan Mars...	No Data Available	September 22, 2021	2021	TV-14	94 min	Thrillers	After a deadly hom...	2021-09-22	9
9	s23	Movie	Avvai Shanmughi	K.S. Ravikumar	Kamal Hassan, Meena, G...	No Data Available	September 21, 2021	1996	TV-PG	161 min	Comedies, Inter...	Newly divorced an...	2021-09-21	15
10	s24	Movie	Go! Go! Cory Carson: Chrissy ...	Alex Woo, Stanley Moore	Maisie Benson, Paul Killa...	No Data Available	September 21, 2021	2021	TV-Y	61 min	Children & Famil...	From arcade game...	2021-09-21	44
11	s25	Movie	Jeans	S. Shankar	Prashanth, Aishwarya Rai...	India	September 21, 2021	1998	TV-14	166 min	Comedies, Inter...	When the father of...	2021-09-21	5

TV Shows released in 2021

```sql
Select title,show_id, type,release_year
From netflix
where type = 'Tv Show' and release_year = 2021 ;
```

	title	show_id	type	release_year
1	Blood & Water	s2	TV Show	2021
2	Ganglands	s3	TV Show	2021
3	Jailbirds New Orleans	s4	TV Show	2021
4	Kota Factory	s5	TV Show	2021
5	Midnight Mass	s6	TV Show	2021
6	The Great British Baking Show	s9	TV Show	2021
7	Vendetta: Truth, Lies and The Mafia	s11	TV Show	2021
8	Bangkok Breaking	s12	TV Show	2021
9	Crime Stories: India Detectives	s15	TV Show	2021
10	Dear White People	s16	TV Show	2021

Title containing
"Family" in Description
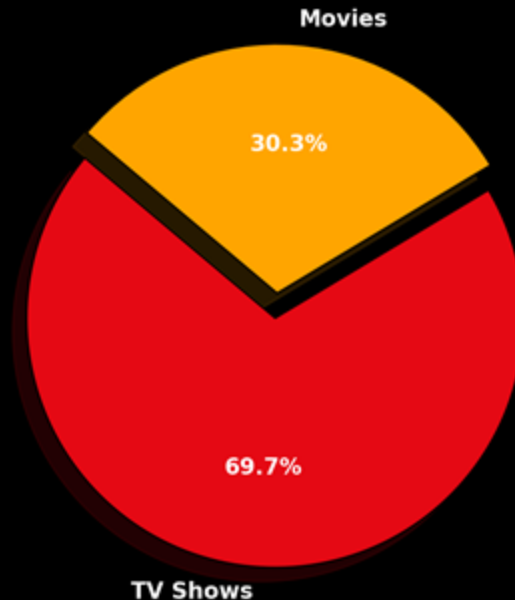
```sql
Select title,show_id, type,description
From netflix
Where description like '%family%' ;
```

	title	show_id	type	description
1	Ganglands	s3	TV Show	To protect his family from a powerful drug lord, skilled thief Mehdi and his expert team of robbers are pulled into a violent and deadly turf war.
2	Je Suis Karl	s13	Movie	After most of her family is murdered in a terrorist bombing, a young woman is unknowingly lured into joining the very group that killed them.
3	Dark Skies	s29	Movie	A family's idyllic suburban life shatters when an alien force invades their home, and as they struggle to convince others of the deadly threat.
4	Omo Ghetto: the Saga	s85	Movie	Twins are reunited as a good-hearted female gangster and her uptight rich sister take on family, crime, cops and all of the trouble that follows them.
5	Shadow Parties	s104	Movie	A family faces destruction in a long-running conflict between communities that pits relatives against each other amid attacks and reprisals.
6	Gurgaon	s119	Movie	When the daughter of a wealthy family returns from college, she gets a frosty welcome from her brother, who has problems – and plans – of his own.
7	Agatha Christie's Crooked House	s129	Movie	When a detective investigates the death of his ex-lover's grandfather, he uncovers secrets about the tycoon's manipulative family.
8	Crocodile Dundee in Los Angeles	s138	Movie	When Mick "Crocodile" Dundee and his family land in Los Angeles
9	HQ Barbers	s149	TV Show	When a family run barber shop in the heart of Lagos is threatened by real estate developers, they'll do whatever it takes to stay in business.
	Kyaa Kool Hain Hum 3	s204	Movie	When an unlikely porn actor falls for a woman outside the industry, he employs his co-stars as a stand-in traditional family to impress her father.

TV shows and Movies Breakdown


```sql
SELECT
  type,
  COUNT(*) AS count,
  ROUND(100 * COUNT(*) / (SELECT COUNT(*) FROM
netflix), 1) AS pct
FROM netflix
GROUP BY type
ORDER BY count DESC;
```


Movies

30.3%

69.7%

TV Shows

Total number of Titles

```sql
Select count(title) as total_title
From netflix;
```
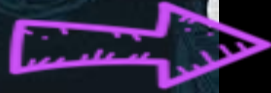
→

8785

NETFLIX

Average Movie Duration

```
Select avg(duration) as
'Average Duration'
From netflix
Where type = 'movie';
```
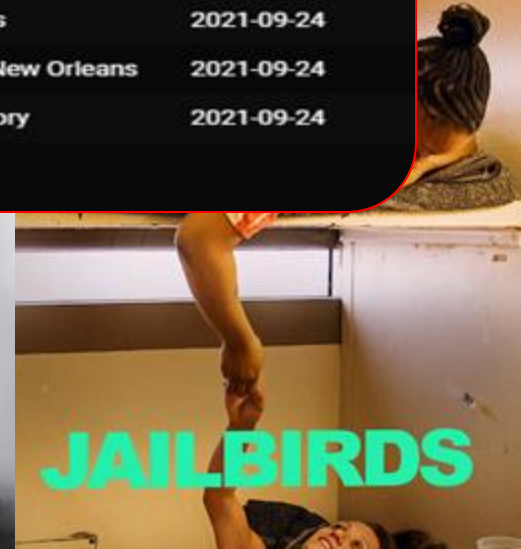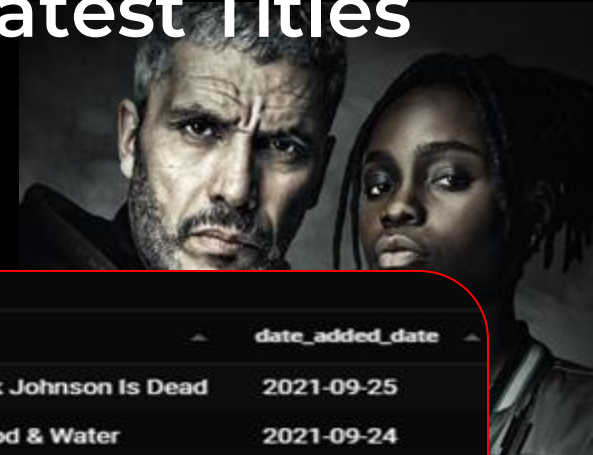
99.569 mins

Top 5 Latest Titles

```sql
SELECT show_id, title,
date_added_date
FROM netflix
Order by date_added_date
desc
LIMIT 5;
```

show_id	title	date_added_date
s1	Dick Johnson Is Dead	2021-09-25
s2	Blood & Water	2021-09-24
s3	Ganglands	2021-09-24
s4	Jailbirds New Orleans	2021-09-24
s5	Kota Factory	2021-09-24

Titles by Director with Count

show_id	title	director	number_of_other_titles_by_director
1	s1	Dick Johnson Is Dead	Kirsten Johnson	0
2	s3	Ganglands	Julien Leclercq	2
3	s6	Midnight Mass	Mike Flanagan	3
4	s7	My Little Pony: A New Generation	Robert Cullen, José Luis Ucha	0
5	s8	Sankofa	Haile Gerima	0
6	s9	The Great British Baking Show	Andy Devonshire	0

```sql
SELECT
    n.show_id,
    n.title,
    n.director,
    d.total_titles - 1 AS
number_of_other_titles_by_director
FROM netflix n
JOIN (
    SELECT director, COUNT(*) AS
total_titles
    FROM netflix
    WHERE director IS NOT NULL
AND director <> 'No Data Available'
    GROUP BY director
) d
    ON n.director = d.director;
```

Titles by Country

```sql
SELECT country, count(*) as total_title
FROM netflix
WHERE country <> 'No Data Available'
GROUP BY country
ORDER BY total_title desc;
```

Titles by Country

	Country	
1	United States	2803
2	India	972
3	United Kingdom	419
4	Japan	245
5	South Korea	200
6	Canada	181
7	Spain	145
8	France	123
9	Mexico	110
10	Egypt	106

Titles Categories by Rating

```sql
SELECT show_id, title, type,
    CASE
        WHEN rating IN ("G", "PG",
"PG-13") THEN "Family"
        WHEN rating IN ("TV-Y", "TV-
Y7", "TV-G") THEN "Kids"
        ELSE "Adult"
    END AS category
FROM netflix;
```

	show_id	title	type	category
1	s1	Dick Johnson Is Dead	Movie	Family
2	s2	Blood & Water	TV Show	Adult
3	s3	Ganglands	TV Show	Adult
4	s4	Jailbirds New Orleans	TV Show	Adult
5	s5	Kota Factory	TV Show	Adult
6	s6	Midnight Mass	TV Show	Adult
7	s7	My Little Pony: A New Generation	Movie	Family
8	s8	Sankofa	Movie	Adult
9	s9	The Great British Baking Show	TV Show	Adult
10	s10	The Starling	Movie	Family

Longest Title Duration

	show_id	title	duration	minutes
1	s4254	Black Mirror: Bandersnatch	312 min	312

```sql
SELECT show_id, title, duration,
CAST(SUBSTRING_INDEX(duration, ' ', 1) AS
UNSIGNED) AS minutes
FROM netflix
WHERE duration LIKE '%min%'
ORDER BY minutes DESC
LIMIT 1;
```

Key Findings

- **Catalog Size**: The dataset provides thousands of Netflix titles, with a higher share of Tv shows compared to Movies.

- **Release Trends**: A large number of titles were added in recent years, indicating Netflix's aggressive content expansion strategy.

- **Average Movie Duration**: The typical Netflix movie has an average runtime of ~99 minutes, fitting within standard feature-length duration.

- **Top Contributors**: Certain directors and countries (like the United States and India) contribute significantly more content compared to others.

- **Category Segmentation**: By classifying titles into *Family*, *Kids*, and *Adult* categories using ratings, clear distinctions emerge in Netflix's target audiences.

- **Global Distribution**: The U.S. dominates Netflix's catalog, but countries like India, the U.K., and Japan also emerge as strong contributors.

- **Hidden Insights**: Analysis of genres shows that certain regions (e.g., South Korea, Spain) have a higher diversity of genres per title, highlighting localized content richness.