

Disney+ and Netflix TV Shows and Movies Analysis

Jacqueline Maloney & Aruushi Naik

Trends and Patterns in Disney+ and Netflix TV Shows and Movies: A Comparative Analysis



Netflix and Disney+

Image Credits - <https://static0.gamerantimages.com/wordpress/wp-content/uploads/2022/08/Netflix-vs-Disney-Plus.jpg>

Introduction

Disney+ and Netflix are two of the most well-known streaming services in the world, providing millions of users with access to a vast variety of TV series and films. We conduct an exploratory data analysis (EDA) of the films and television series that are available on Netflix and Disney+ in this analysis. Given the dynamic nature of digital entertainment, knowing

how content trends and patterns have changed over time offers important insights regarding platform expansion, production strategy, and consumer preferences.

Key patterns in Disney+ and Netflix content will be examined in this analysis, such as variations in the number of movies and TV shows each year, average running times, regional production distribution, content ratings, etc. Disney+ and Netflix's future content choices and marketing plans will be influenced by the insights this analysis provides into consumer preferences, strategic planning for content, and platform evolution.

The broader research question for our analysis is :

What trends and patterns can be observed in Disney Plus and Netflix TV shows and movies?

Dataset Overview

To address the research question, we will conduct an in-depth analysis of the Disney+ and Netflix data sets, examining various aspects of the content offered on both platforms.

Disney+ Data Preview

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
s1	Movie	Duck the Hal...	Alonso Ramir...	Chris Dia-man...		November 26,...	2016	TV-G	23 min	Animation, F...	Join Mickey ...
s2	Movie	Ernest Saves...	John Cherry	Jim Varney, ...		November 26,...	1988	PG	91 min	Comedy	Santa Claus ...
s3	Movie	Ice Age: A M...	Karen Disher	Raymond Albe...	United States	November 26,...	2011	TV-G	23 min	Animation, C...	Sid the Slot...
s4	Movie	The Queen Fa...	Hamish Hamilton	Darren Criss...		November 26,...	2021	TV-PG	41 min	Musical	This is real...
s5	TV Show	The Beatles:...		John Lennon,...		November 25,...	2021		1 Season	Docuseries, ...	A three-part...
s6	Movie	Becoming Cou...	Liz Garbus	Jacques Yves...	United States	November 24,...	2021	PG-13	94 min	Biographical	An inside lo...
s7	TV Show	Hawkeye		Jeremy Renne...		November 24,...	2021	TV-14	1 Season	Action-Adven...	Clint Barton...
s8	TV Show	Port Pro-tect...		Gary Muehlbe...	United States	November 24,...	2015	TV-14	2 Seasons	Docuseries, ...	Residents of...
s9	TV Show	Secrets of t...		Dr. Ray Ball...	United States	November 24,...	2019	TV-PG	2 Seasons	Animals & Na...	A day in the...
s10	Movie	A Muppets Ch...	Kirk R. That...	Steve Whitmi...	United States	November 19,...	2008	G	45 min	Comedy, Fami...	Celebrate th...

Netflix Data Preview

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
---------	------	-------	----------	------	---------	------------	--------------	--------	----------	-----------	-------------

s1	Movie	Dick Johnson...	Kirsten Johnson		United States	September 25...	2020	PG-13	90 min	Documentary	As her father...
s2	TV Show	Blood & Water		Ama Qamata, ...	South Africa	September 24...	2021	TV-MA	2 Seasons	International	After crossi...
s3	TV Show	Ganglands	Julien Leclercq	Sami Boua-jil...		September 24...	2021	TV-MA	1 Season	Crime TV Sho...	To protect h...
s4	TV Show	Jailbirds Ne...				September 24...	2021	TV-MA	1 Season	Docuseries, ...	Feuds, flirt...
s5	TV Show	Kota Factory		Mayur More, ...	India	September 24...	2021	TV-MA	2 Seasons	International	In a city of...
s6	TV Show	Midnight Mass	Mike Flanagan	Kate Siegel,...		September 24...	2021	TV-MA	1 Season	TV Dramas, T...	The arrival ...
s7	Movie	My Little Po...	Robert Culle...	Vanessa Hudg...		September 24...	2021	PG	91 min	Children & F...	Equestria's ...
s8	Movie	Sankofa	Haile Gerima	Kofi Ghan-aba...	United State...	September 24...	1993	TV-MA	125 min	Dramas, Inde...	On a photo s...
s9	TV Show	The Great Br...	Andy Devon-shire	Mel Giedroyc...	United King-	September 24...	2021	TV-14	9 Seasons	British TV S...	A talented b...
s10	Movie	The Starling	Theodore Melfi	Melissa McCa...	United States	September 24...	2021	PG-13	104 min	Comedies, Dr...	A woman adju...

The tables above were built using the `head()` method and display the first few values from the data sets. It provides a quick preview of the data set's structure, column names, and value types, which is important for understanding the data's overall format and content.

Disney+ Data Summary

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
Length:1450	Length:1450	Length:1450	Length:1450	Length:1450	Length:1450	Length:1450	Min. :1928	Length:1450	Length:1450	Length:1450	Length:1450
Class :character	Class :character	Class :character	Class :character	Class :character	Class :character	Class :character	1st Qu.:1999	Class :character	Class :character	Class :character	Class :character
Mode :character	Mode :character	Mode :character	Mode :character	Mode :character	Mode :character	Mode :character	Median :2011	Mode :character	Mode :character	Mode :character	Mode :character
NA	NA	NA	NA	NA	NA	NA	Mean :2003	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	3rd Qu.:2018	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	Max. :2021	NA	NA	NA	NA

Netflix Data Summary

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
Length:8807	Length:8807	Length:8807	Length:8807	Length:8807	Length:8807	Length:8807	Min. :1925	Length:8807	Length:8807	Length:8807	Length:8807
Class :character	Class :character	Class :character	Class :character	Class :character	Class :character	Class :character	1st Qu.:2013	Class :character	Class :character	Class :character	Class :character
Mode :character	Mode :character	Mode :character	Mode :character	Mode :character	Mode :character	Mode :character	Median :2017	Mode :character	Mode :character	Mode :character	Mode :character

NA	NA	NA	NA	NA	NA	NA	Mean :2014	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	3rd Qu.:2019	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	Max. :2021	NA	NA	NA	NA

Additionally, we used the `summary()` function to create a summary table. Each column in the data data frame is summarized in the table that is shown above.

Data Cleaning and Wrangling

To streamline the analysis, the datasets for Disney+ and Netflix were merged into a single dataset. This joining process ensures a consistent structure for comparative analysis and enables efficient exploration of trends across both the platforms.

```
# Add a platform column to the Disney+ dataset
disney_plus <- disney_data %>%
  mutate(platform = "Disney Plus")
# Add a platform column to the Netflix dataset
netflix <- netflix_data %>%
  mutate(platform = "Netflix")
# Join the two datasets
moviesandtv <- bind_rows(disney_plus, netflix)
```

Upon looking at the *moviesandtv* dataset, we came across empty cells and decided to replace it with N/A values to account for missing data. This would maintain uniformity throughout the dataset and allow for more accurate analysis by clearly identifying missing information across the Disney+ and Netflix datasets.

To facilitate targeted analysis for each type of content, we separated the *moviesandtv* dataset into two distinct tables: one for movies and one for TV shows. For movies, we changed the format for duration by removing the “min” label, while for TV shows, we converted the number of seasons into integers to ensure clear and specific analysis of content.

TV Shows Data

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	platform
s5	TV Show	The Beatles:...	NA	John Lennon,...	NA	November 25,...	2021	NA	1	Docuseries, ...	A three-part...	Disney Plus
s7	TV Show	Hawkeye	NA	Jeremy Renne...	NA	November 24,...	2021	TV-14	1	Action-Adven...	Clint Barton...	Disney Plus
s8	TV Show	Port Pro-tect...	NA	Gary Muehlbe...	United States	November 24,...	2015	TV-14	2	Docuseries, ...	Residents of...	Disney Plus
s9	TV Show	Secrets of t...	NA	Dr. Ray Ball...	United States	November 24,...	2019	TV-PG	2	Animals & Na...	A day in the...	Disney Plus

s14	TV Show	Dr. Oakley, ...	NA	Dr. Michelle...	United States	November 17,...	2013	TV-PG	10	Action-Adven...	Meet Dr. Mic...	Disney Plus
s18	TV Show	Disney Fancy...	NA	Mia Jenness,...	United State...	November 12,...	2018	TV-PG	3	Animation, Kids	Nancy makes ...	Disney Plus
s19	TV Show	Disney Inter...	NA	Carolina Dom...	NA	November 12,...	2021	TV-PG	1	Comedy, Comi...	Allegra is r...	Disney Plus
s29	TV Show	Olaf Presents	NA	Josh Gad	NA	November 12,...	2021	TV-PG	1	Animation, F...	Olaf goes fr...	Disney Plus
s52	TV Show	Disney Am- phibia	NA	Justin Felbi...	United State...	November 3, ...	2018	TV-Y7	3	Animation, C...	Anne Boonchu...	Disney Plus
s53	TV Show	Photo Ark	NA	Joel Sartore	United States	November 3, ...	2017	TV-PG	1	Animals & Na...	National Geo...	Disney Plus

The above table showcases the TV Shows dataset which contains data from both the plat-
forms.

Movies Data

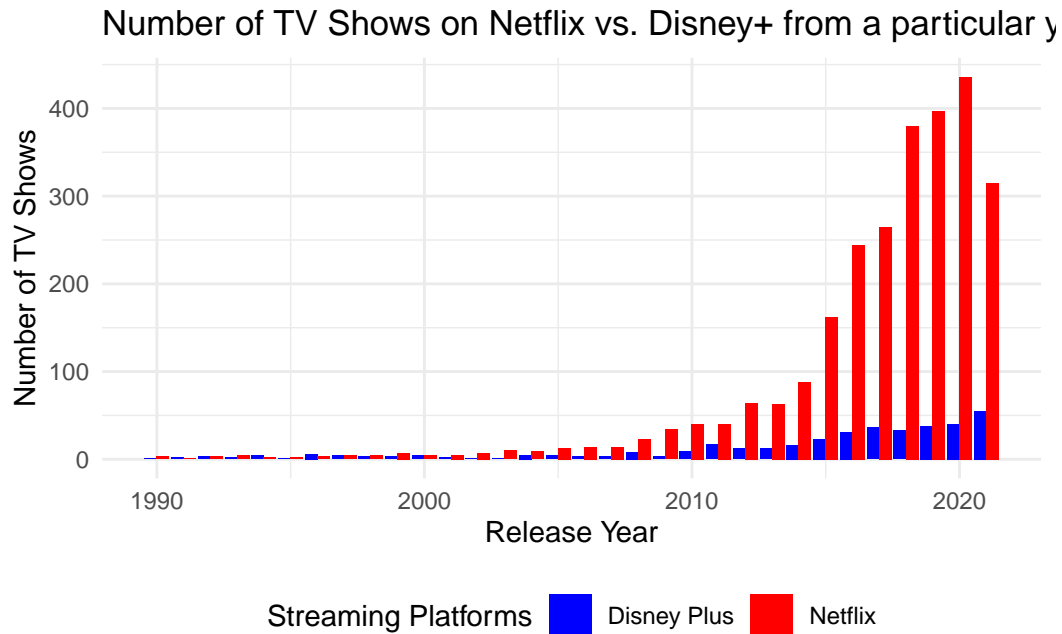
show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description	platform
s1	Movie	Duck the Hal...	Alonso Ramir...	Chris Dia- man...	NA	November 26,...	2016	TV-G	23	Animation, F...	Join Mickey ...	Disney Plus
s2	Movie	Ernest Saves...	John Cherry	Jim Varney, ...	NA	November 26,...	1988	PG	91	Comedy	Santa Claus ...	Disney Plus
s3	Movie	Ice Age: A M...	Karen Disher	Raymond Albe...	United States	November 26,...	2011	TV-G	23	Animation, C...	Sid the Slot...	Disney Plus
s4	Movie	The Queen Hamil- Fa...	Hamish Darren Criss...	Darren Criss...	NA	November 26,...	2021	TV-PG	41	Musical	This is real...	Disney Plus
s6	Movie	Becoming Cou...	Liz Garbus	Jacques Yves...	United States	November 24,...	2021	PG-13	94	Biographical	An inside lo...	Disney Plus
s10	Movie	A Muppets Ch...	Kirk R. That...	Steve Whitmi...	United States	November 19,...	2008	G	45	Comedy, Fami...	Celebrate th...	Disney Plus
s11	Movie	Adventure Th...	John Gleim	Don Hahn, Ka...	NA	November 19,...	2020	TV-PG	59	Documentary	Explore the ...	Disney Plus
s12	Movie	Puppy for Ha...	NA	NA	NA	November 19,...	2020	TV-G	4	Comedy, Fami...	Check out Da...	Disney Plus
s13	Movie	The Pixar Story	Leslie Iwerks	Stacy Keach,...	United States	November 19,...	2007	G	91	Documentary	A ground- brea...	Disney Plus
s15	Movie	America the ...	NA	Michael B. J...	NA	November 12,...	2021	TV-PG	2	Animals & Na...	Epic, grand ...	Disney Plus

The above table showcases the Movies dataset which contains data from both the platforms.

Exploratory Data Analysis(EDA)

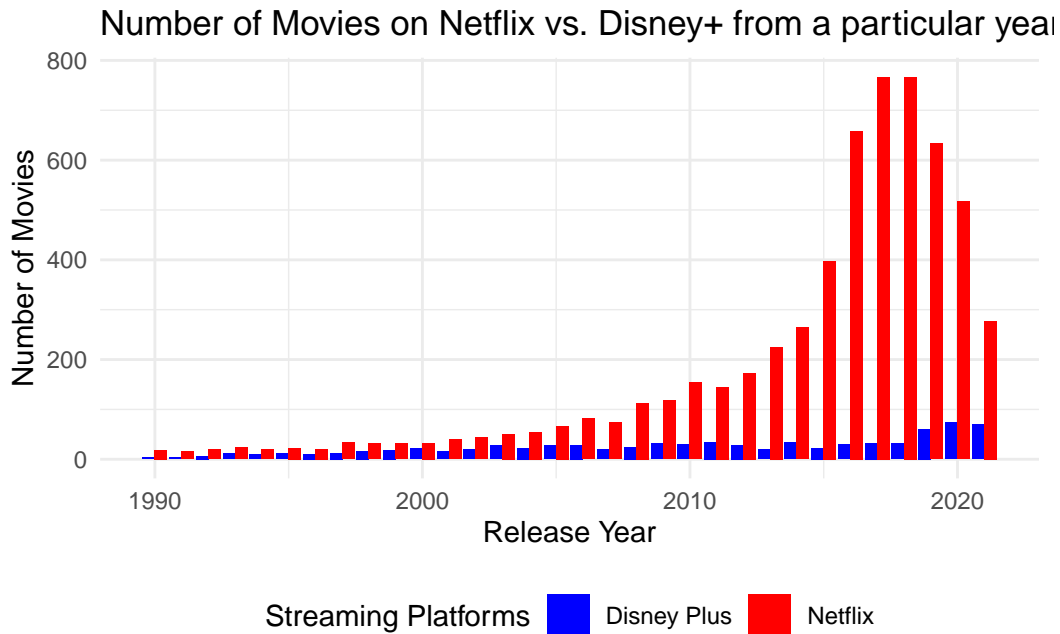
How many TV shows and movies from a specific year are available on Netflix and Disney+ ?

TV Shows



The bar chart illustrates a number of TV series that are accessible on Netflix and Disney+ from each particular year. When it comes to TV shows selection, Netflix constantly outperforms Disney+, especially after the 2000s, which is an indication of its larger selection of TV shows from the year 2000 to 2021. Netflix's content strength is demonstrated its peak at 436 TV shows from the year 2020 alone. Disney+, on the other hand, peaks at 55 TV shows from the year 2021 but still lags behind Netflix. It is interesting to note that Netflix still surpasses Disney+ in 2021 despite a minor decline in TV series from that year. This confirms Netflix's domination in the market by showing that it offers a wider range of TV shows than Disney+.

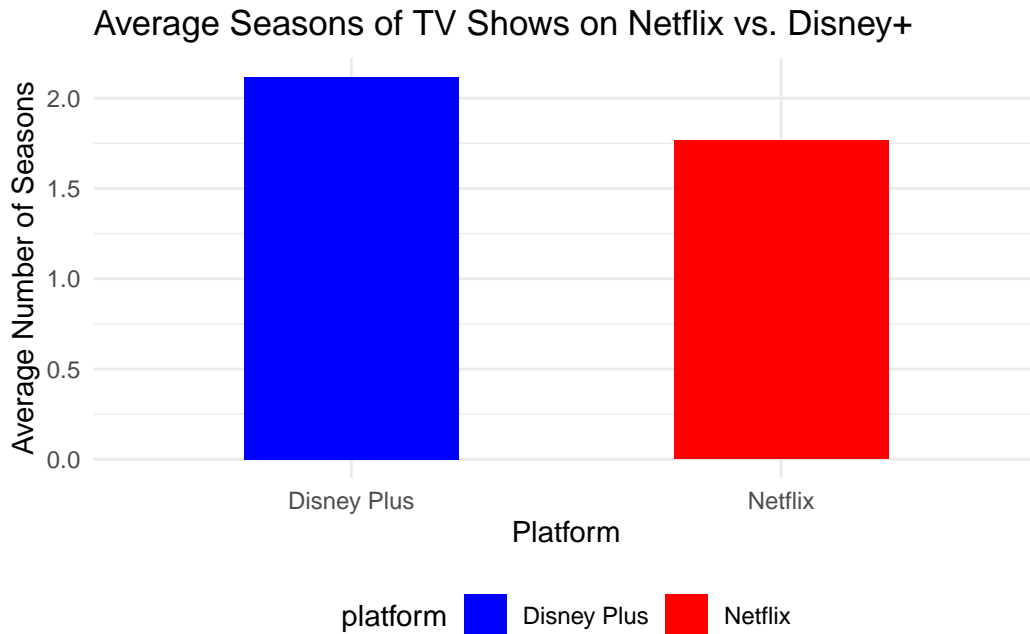
Movies



The bar chart shows the quantity of films that have been made available on Netflix and Disney+ throughout time. In terms of movie collection, Netflix significantly surpasses Disney+ since 1990. Netflix demonstrates its extensive content library by reaching its pinnacle in 2018 and 2019 movies, with 767 films annually. But after these years, Netflix sees a drop in movie content, much like their TV show patterns. Disney+, in contrast, has a relatively smaller collection of movies, but it has been steadily growing with its content from the recent years, reaching a peak of 74 films from 2020. Netflix's dominance in the movie streaming market is highlighted by this trend, although Disney+ is progressively growing its collection, especially with more recent movies.

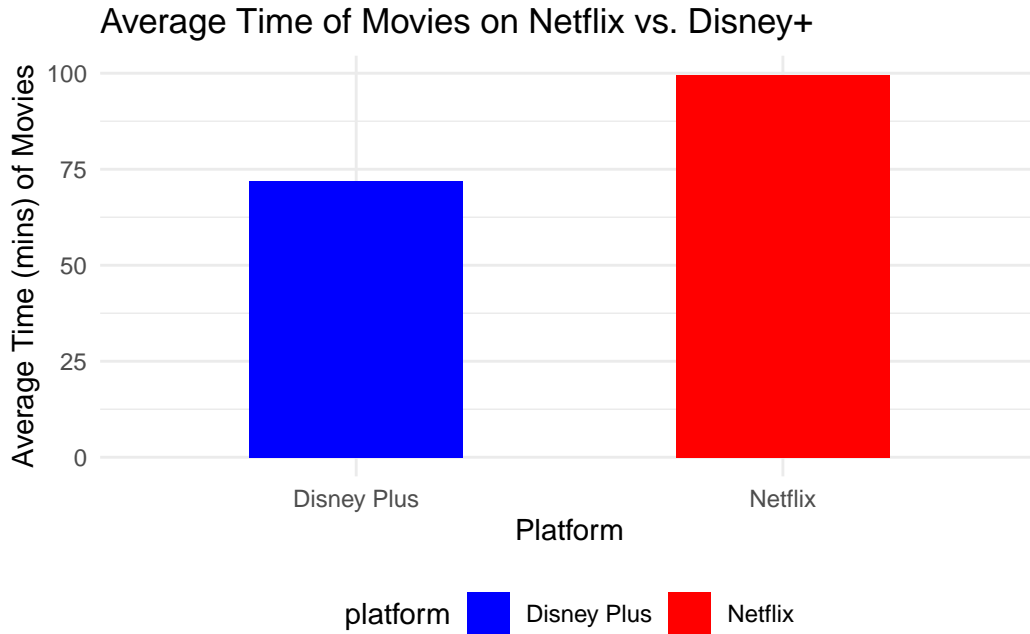
What is the average duration of movies and TV shows?

TV Shows



The average number of seasons for Netflix and Disney+ TV series is compared in the plot. It illustrates that, in contrast to Netflix, which normally offers shows with fewer than two seasons, Disney+ usually offers shows with a greater average number of seasons - 2 or more. Disney+'s emphasis on family-friendly franchises like Marvel, Star Wars, Pixar, and Disney Channel series—which frequently have several seasons to appeal to younger viewers who prefer longer-running series—is in line with this trend. Netflix, on the other hand, appeals to a wider audience, including elderly viewers who might like short stories, by offering a varied mix of original content and shorter series.

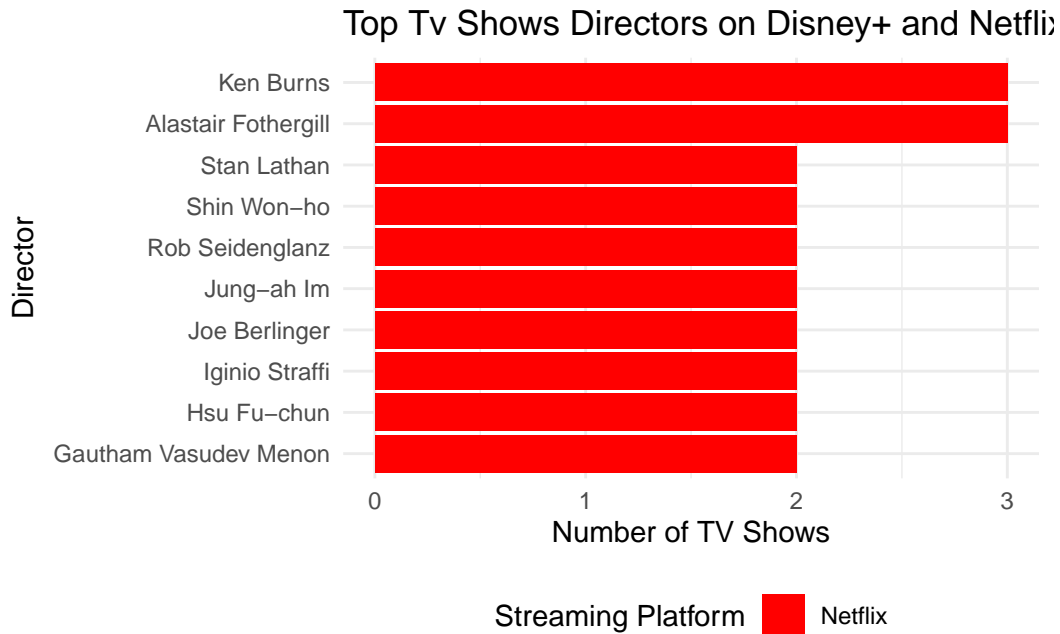
Movies



The plot compares with the average running times of Netflix and Disney+ films. It demonstrates that the average runtime of Netflix films is higher i.e. 99 minutes than that of Disney+ films i.e. 71 minutes. This variation can be explained by Netflix's emphasis on a wide variety of movies, including highly regarded, award-winning productions which typically entail lengthier running periods. Furthermore, Netflix offers a greater selection of adult-oriented live-action movies, which are usually lengthier in length. Disney+, on the other hand, concentrates more on animation and franchise films aimed at younger audiences, which are typically shorter in order to keep viewers' attention spans intact. The two platforms' different target audiences and content strategies are reflected in this trend.

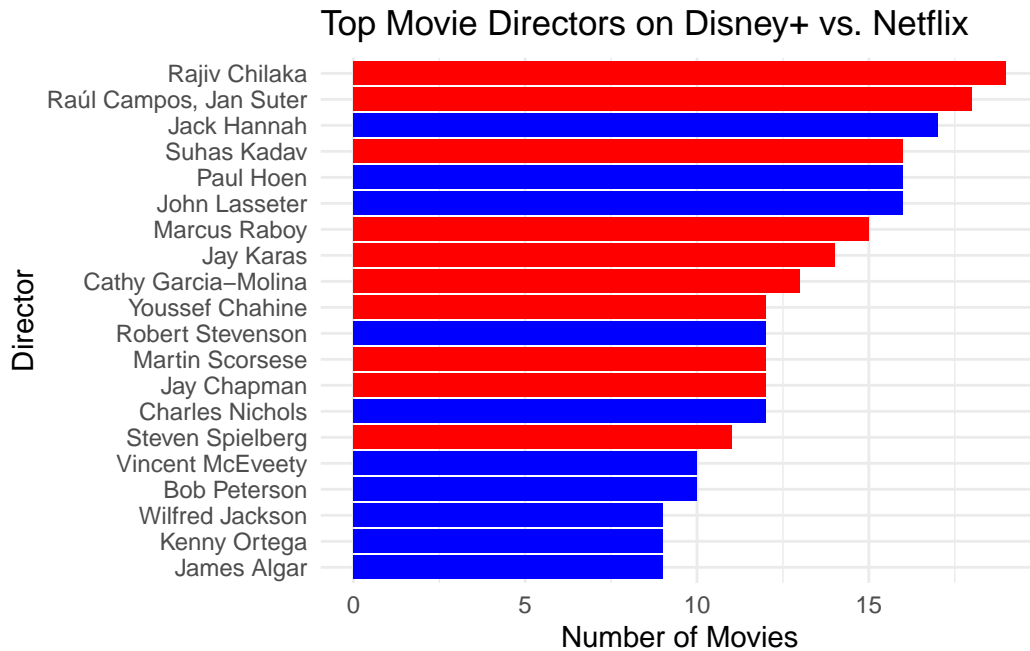
Which directors are most frequently featured on Disney+?

TV Shows



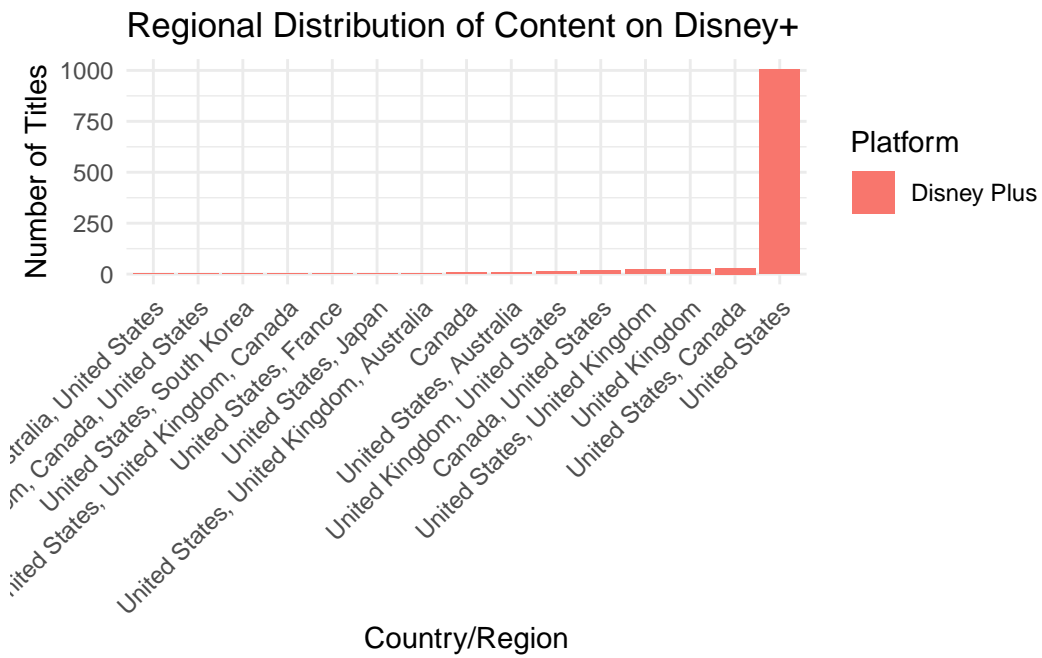
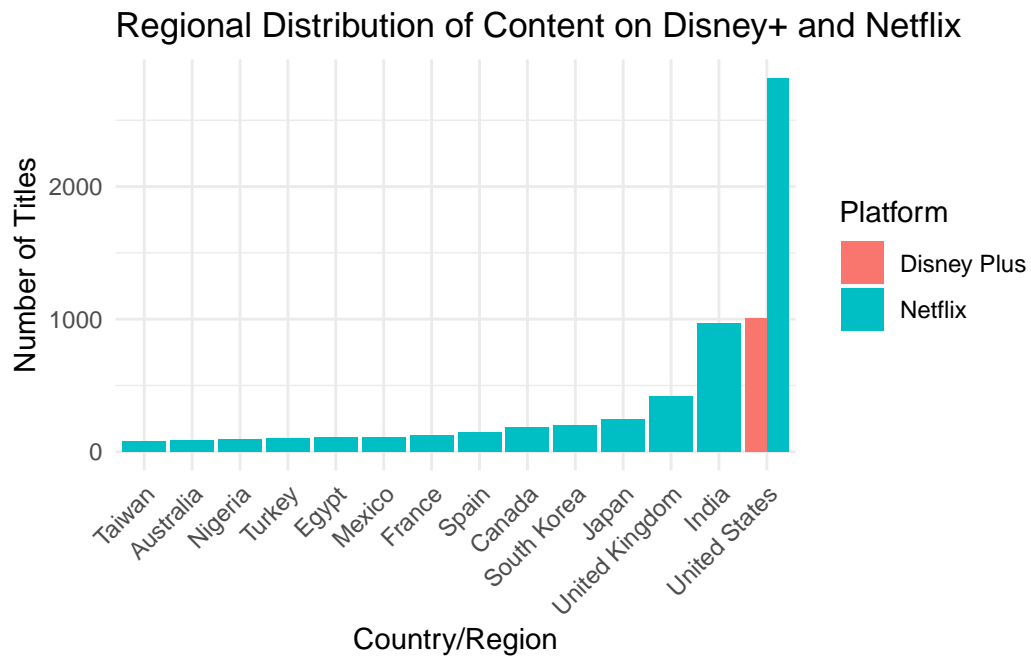
The top ten TV show directors on Netflix and Disney+ can be seen in the graph. Given that Disney+ has no directors included in the data set (only “NA” values are present), it is evident from the plot that all of the top directors in the graph are connected to Netflix. With three TV shows each available on Netflix, directors Ken Burns and Alastair Fothergill are clearly the most significant contributors. This implies that Netflix features a wider variety of content from a wider spectrum of directors. A data set restriction in the Disney+ data set is the reason for the lack of directors for Disney+.

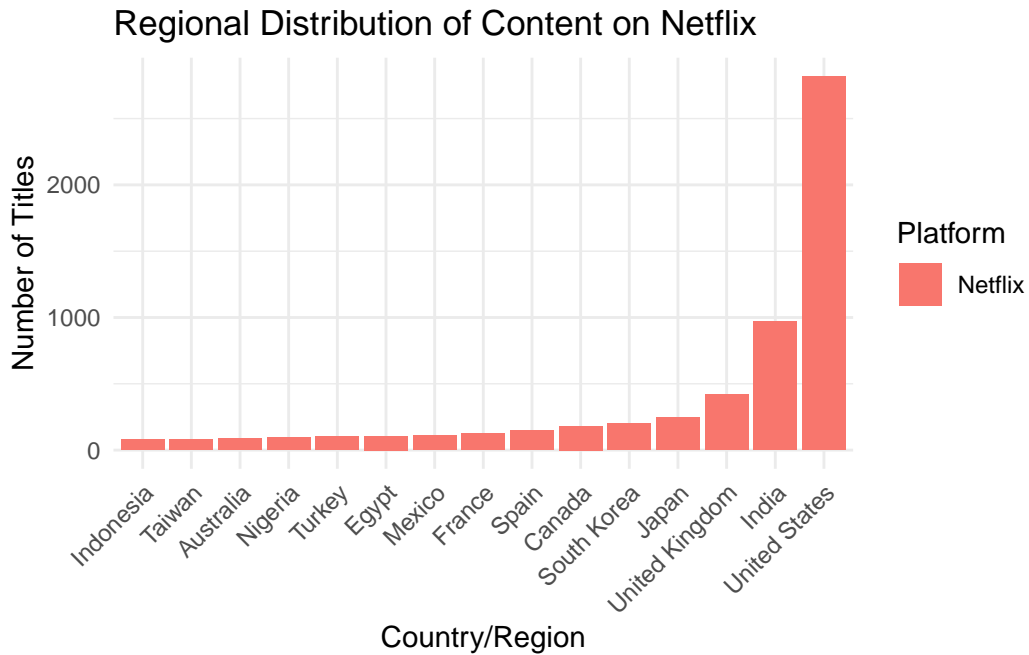
Movies



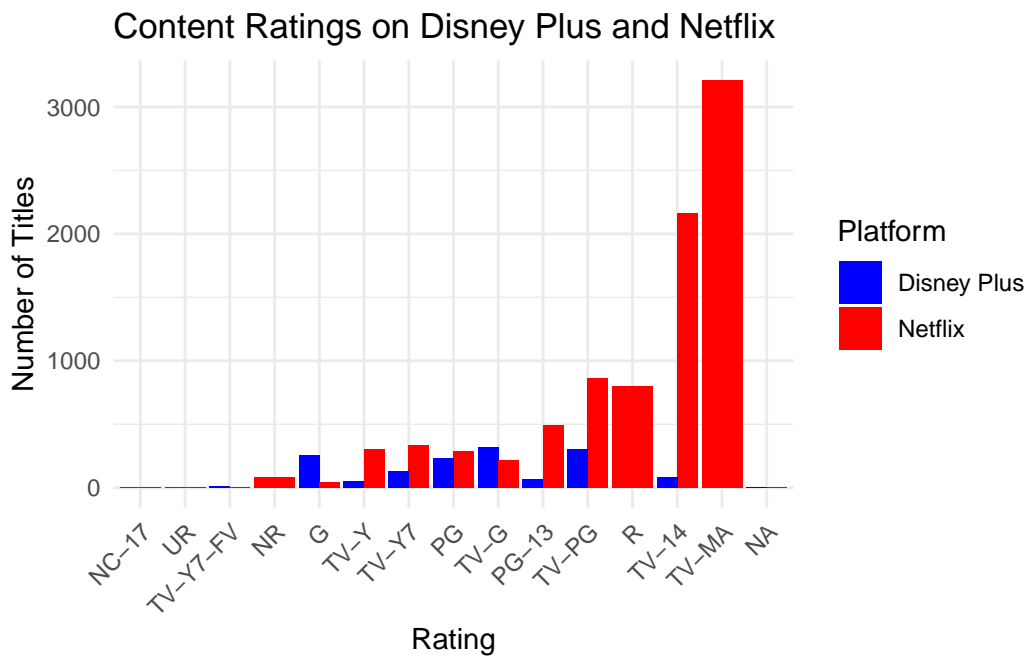
The top ten film directors on Netflix and Disney+ are shown in the graph. It shows that Rajiv Chilaka, whose 19 films are available on Netflix, is Netflix’s main dominator. On the other side, Jack Hanna is in charge of Disney+, which offers 17 films that he has directed. This demonstrates a considerable difference between the movie selections on the two platforms, with Netflix displaying a greater number of Chilaka-directed productions. Hanna makes a substantial contribution to Disney+. The plot emphasizes how different the kinds of films that are available on each platform are, with Netflix providing a wider selection of filmmakers and genres.

What is the regional distribution of Disney+ content (based on country/region of production)?



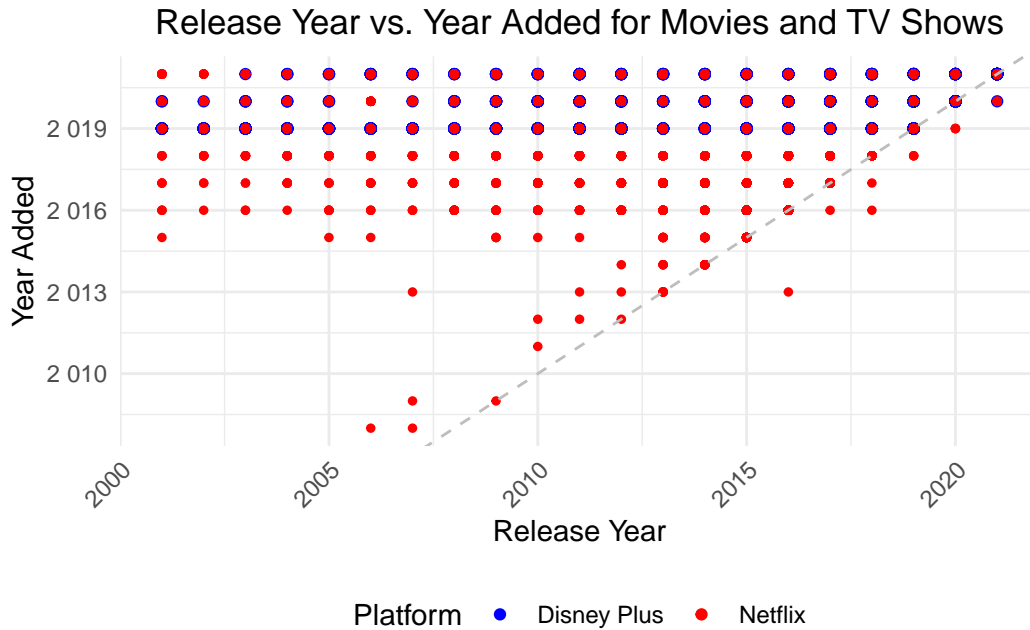


Is there a trend in content ratings? For instance, does Disney Plus predominantly feature family-friendly content, or is there a growing inclusion of mature-rated titles?



Disney Plus tailors to a younger audience whereas Netflix tailors to teens and young adults.

How does the time between a movie's release and its addition to Disney+ and Netflix vary?



Summary/ Conclusion

This report examines the content data sets from Netflix and Disney+ to identify key trends and differences in their TV shows and movie offerings. The data sets include seasons of TV series, average runtimes of movies, the number of TV series and films available from various years, and the contributions of the best directors on each platform. A brief overview of the platforms' growth trends and content strategy is as follows:

1. Content Availability: Netflix consistently outperforms Disney+ in both TV shows and movies, with peaks for the year 2020 and 2018-2019. Disney+ shows steady growth, peaking for the year 2021, but remains behind Netflix in volume.
2. Content Characteristics: Disney+ emphasizes family-friendly, multi-season TV franchises and shorter animated films, while Netflix offers diverse, shorter TV series and longer, live-action films.
3. Directorial Influence: Netflix showcases a broader variety of directors across TV shows and movies, led by Rajiv Chilaka, while Disney+ highlights Jack Hanna's contributions.

- 4.
- 5.
- 6.

These observations draw attention to the unique strategies used by Netflix and Disney+ to reach their target markets and expand their libraries.

References

Code Appendix

```
# Load the necessary packages
library(dplyr)
library(tidyr)
library(kableExtra)
library(stringr)
library(ggplot2)
library(scales)

# Load the Disney+ & Netflix data from the provided URL
disney_url <- "https://docs.google.com/spreadsheets/d/e/2PACX-1vT2CVS1o_R5Dq-ATuN1VRInKOWHG90

disney_data <- read.csv(disney_url)

netflix_url <- "https://docs.google.com/spreadsheets/d/e/2PACX-1vRhYpV_1EupTdc9VgHeH2814Qtwac

netflix_data <- read.csv(netflix_url)
# Preview Disney+ (first 10 entries) with truncated text and adjusted font size for the table
head(disney_data, 10) %>%
  # Truncate character columns
  mutate(across(where(is.character), ~str_trunc(., width = 15, ellipsis = "..."))) %>%
  kable() %>%
  kable_styling(bootstrap_options = c("striped", "hover"), full_width = FALSE) %>%
  column_spec(1:12, width = "1cm") %>% #Adjust column width
  row_spec(0, bold = TRUE, font_size = 4.5)%>% # Adjust header font size
  kable_styling(font_size = 6) #Modify cell font size
# Preview Netflix the data
# Preview Disney+ (first 10 entries) with truncated text and adjusted font size for the table
head(netflix_data, 10) %>%
  # Truncate character columns
  mutate(across(where(is.character), ~str_trunc(., width = 15, ellipsis = "..."))) %>%
```

```

kable() %>%
kable_styling(bootstrap_options = c("striped", "hover"), full_width = FALSE) %>%
column_spec(1:12, width = "1cm") %>% #Adjust column width
row_spec(0, bold = TRUE, font_size = 4.5)%>% # Adjust header font size
kable_styling(font_size = 6) #Modify cell font size

# Summarize Disney+ the data
summary(disney_data) %>%
kable() %>%
kable_styling(bootstrap_options = c("striped", "hover"), full_width = FALSE) %>%
column_spec(1:12, width = "1cm") %>%
row_spec(0, bold = TRUE, font_size = 4.5) %>%
kable_styling(font_size = 6)%>%
column_spec(1, extra_css = "text-align: left;")
# Summarize Netflix the data
summary(netflix_data) %>%
kable() %>%
kable_styling(bootstrap_options = c("striped", "hover"), full_width = FALSE) %>%
column_spec(1:12, width = "1cm") %>%
row_spec(0, bold = TRUE, font_size = 4.5) %>%
kable_styling(font_size = 5)%>%
column_spec(1, extra_css = "text-align: left;")
# Add a platform column to the Disney+ dataset
disney_plus <- disney_data %>%
mutate(platform = "Disney Plus")
# Add a platform column to the Netflix dataset
netflix <- netflix_data %>%
mutate(platform = "Netflix")
# Join the two datasets
moviesandtv <- bind_rows(disney_plus, netflix)
# Add N/A values to replace missing data
moviesandtv <- moviesandtv %>%
mutate(across(where(is.character), ~na_if(., "")))
#Separate the moviesandtv table into two distinct tables

movies <- moviesandtv %>%
filter(type == 'Movie') %>% # Filter the type column
mutate(duration = as.integer(str_remove(duration, " min"))) # Remove the string 'min' and

tvshows <- moviesandtv %>%
filter(type == 'TV Show') %>% # Filter the type column
mutate(duration = str_replace(duration, "Seasons", "Season")) %>% # Replace the Seasons to

```



```

    mutate(duration = as.integer(str_remove(duration, " Season")))) # Remove the string 'Season'
head(tvshows, 10) %>%
  # Truncate character columns
  mutate(across(where(is.character), ~str_trunc(., width = 15, ellipsis = "..."))) %>%
  kable() %>%
  kable_styling(bootstrap_options = c("striped", "hover"), full_width = FALSE) %>%
  column_spec(1:12, width = "0.95cm") %>% #Adjust column width
  row_spec(0, bold = TRUE, font_size = 4.5) %>% # Adjust header font size
  kable_styling(font_size = 5) #Modify cell font size
head(movies, 10) %>%
  # Truncate character columns
  mutate(across(where(is.character), ~str_trunc(., width = 15, ellipsis = "..."))) %>%
  kable() %>%
  kable_styling(bootstrap_options = c("striped", "hover"), full_width = FALSE) %>%
  column_spec(1:12, width = "0.95cm") %>% #Adjust column width
  row_spec(0, bold = TRUE, font_size = 4.5) %>% # Adjust header font size
  kable_styling(font_size = 5) #Modify cell font size

### How many TV shows and movies from a specific year are available on Disney+ and Netflix ?

# For TV Shows
# Step 1: Wrangle the TV shows dataset
# Filter the dataset to include only TV shows released between 1950 and 2025
tv_trend <- tvshows %>%
  filter(release_year >= 1990 & release_year <= 2025) %>%
  group_by(platform, release_year) %>% # Group by platform and release year
  summarise(count = n()) # Count the number of TV shows

# Step 2: Create the trend line plot
ggplot(tv_trend, aes(x = release_year, y = count, fill = platform)) +
  geom_bar(stat = "identity", position = "dodge") + # Create bar plot with grouped bars
  labs( title = "Number of TV Shows on Netflix vs. Disney+ from a particular year",
        x = "Release Year",
        y = "Number of TV Shows",
        fill = "Streaming Platforms" ) + # Add titles, labels, and key for the plot
  scale_fill_manual(values = c("Disney Plus" = "blue", "Netflix" = "red")) + # Set custom colors
  theme_minimal() + # Add a clean theme
  theme(legend.position = "bottom") # Positions the legend at the bottom of the plot

# For Movies
# Step 1: Wrangle the Movies dataset
# Filter the dataset to include only Movies released between 1950 and 2025

```

```

movie_trend <- movies %>%
  filter(release_year >= 1990 & release_year <= 2025) %>%
  group_by(platform, release_year) %>% # Group by platform and release year
  summarise(count = n()) # Count the number of movies

# Step 2: Create the bar graph plot
ggplot(movie_trend, aes(x = release_year, y = count, fill = platform)) +
  geom_bar(stat = "identity", position = "dodge") + # Create bar plot with grouped bars
  labs( title = "Number of Movies on Netflix vs. Disney+ from a particular year",
        x = "Release Year",
        y = "Number of Movies",
        fill = "Streaming Platforms") + # Add titles, labels, and key for the plot
  scale_fill_manual( values = c("Disney Plus" = "blue", "Netflix" = "red")) + # Set custom colors
  theme_minimal()+ # Add a clean theme
  theme(legend.position = "bottom") # Positions the legend at the bottom of the plot
### What is the average duration of movies and TV shows on Disney+ and Netflix?

# For TV Shows
# Step 1: Wrangle the TV Shows dataset
average_duration_tv <- tvshows %>%
  group_by(platform) %>% # Group by platform
  summarise(avg_seasons = mean(duration, na.rm = TRUE)) # Calculate mean number of seasons

# Step 2: Plot the bar graph plot
ggplot(average_duration_tv, aes(x = platform, y = avg_seasons, fill = platform)) +
  geom_bar(stat = "identity", width = 0.5) + # Create a bar plot
  labs(title = "Average Seasons of TV Shows on Netflix vs. Disney+",
        x = "Platform",
        y = "Average Number of Seasons" ) + # Add titles, labels, and key for the plot
  scale_fill_manual(values = c("Disney Plus" = "blue", "Netflix" = "red")) + # Set custom colors
  theme_minimal() + # Add a clean theme
  theme(legend.position = "bottom") # Positions the legend at the bottom of the plot

# For Movies
# Step 1: Wrangle the Movies dataset
average_duration_movies <- movies %>%
  group_by(platform) %>% # Group by platform
  summarise(avg_time = mean(duration, na.rm = TRUE)) #Calculate mean number of time

# Step 2: Plot the bar plot
ggplot(average_duration_movies, aes(x = platform, y = avg_time, fill = platform)) +
  geom_bar(stat = "identity", width = 0.5) + # Create a bar plot
  labs( title = "Average Time of Movies on Netflix vs. Disney+",
        x = "Platform",

```

```

    y = "Average Time (mins) of Movies"
  ) + # Add titles, labels, and key for the plot
  scale_fill_manual(values = c("Disney Plus" = "blue", "Netflix" = "red")) + # Set custom colors
  theme_minimal() + # Add a clean theme
  theme(legend.position = "bottom") # Positions the legend at the bottom of the plot
### Which directors are most frequently featured on Disney+ and Netflix?
# For TV shows
# Step 1 : Wrangle the TV shows dataset
director_data_tv <- tvshows %>%
  filter(!is.na(director)) %>% # Remove rows with NA in the director column
  separate_rows(director, sep = ",") %>% # Separate rows with a separator
  group_by(platform, director) %>% # Group by platform and director
  summarise(count = n()) # Count the number of rows

# Step 2: Get the top directors for each platform
top_directors_tv <- director_data_tv %>%
  group_by(platform) %>% # Group by platform
  top_n(10, count) %>% # Select top 10 directors by count
  ungroup() # Ungroup the data

# Step 3: Plot the bar data
ggplot(top_directors_tv, aes(x = reorder(director, count), y = count, fill = platform)) +
  geom_bar(stat = "identity") + # Create a bar plot
  coord_flip() + # Flipping coordinates for better readability
  labs(title = "Top Tv Shows Directors on Disney+ and Netflix",
       x = "Director",
       y = "Number of TV Shows",
       fill = "Streaming Platform") + # Add titles, labels, and key for the plot
  scale_fill_manual(values = c("Disney Plus" = "blue", "Netflix" = "red")) + # Set custom colors
  theme_minimal() + # Add a clean theme
  theme(legend.position = "bottom") # Positions the legend at the bottom of the plot
# For movies
# Step 1 : Wrangle the Movies dataset
director_data_movies <- movies %>%
  filter(!is.na(director)) %>% # Remove rows with NA in the director column
  group_by(platform, director) %>% # Group by platform and director
  summarise(count = n()) # Count the number of rows

# Step 2: Get the top directors for each platform
top_directors <- director_data_movies %>%
  group_by(platform) %>% # Group by platform
  top_n(10, count) %>% # Select top 10 directors by count

```

```

ungroup() # Ungroup the data

# Step 3: Plot the data
ggplot(top_directors, aes(x = reorder(director, count), y = count, fill = platform)) +
  geom_bar(stat = "identity", show.legend = FALSE) + # Bar plot without legend
  coord_flip() + # Flip coordinates for better readability
  labs(title = "Top Movie Directors on Disney+ vs. Netflix",
       x = "Director",
       y = "Number of Movies",
       fill = " Streaming Platform" ) + # Add titles, labels, and key for the plot
  scale_fill_manual(values = c("Disney Plus" = "blue", "Netflix" = "red")) + # Set custom colors
  theme_minimal() + # Add a clean theme
  theme(legend.position = "bottom") # Positions the legend at the bottom of the plot

distribution <- moviesandtv %>%
  group_by(platform, country) %>%
  summarise(count = n(), .groups="drop") %>%
  arrange(desc(count)) %>%
  filter(!is.na(country)) %>%
  slice_head(n=15)

ggplot(distribution, aes(x = reorder(country, count), y = count, fill = platform)) +
  geom_bar(stat = "identity", position = "dodge") +
  labs(
    title = "Regional Distribution of Content on Disney+ and Netflix",
    x = "Country/Region",
    y = "Number of Titles",
    fill = "Platform"
  ) +
  theme_minimal() +
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1, vjust = 1) ) # Adjust label position
library(dplyr)
library(ggplot2)

disney_distribution <- moviesandtv %>%
  filter(platform == "Disney Plus") %>%
  group_by(country) %>%
  summarise(count = n(), .groups = "drop") %>%
  arrange(desc(count)) %>%
  filter(!is.na(country)) %>%
  slice_head(n = 15)

```

```

netflix_distribution <- moviesandtv %>%
  filter(platform == "Netflix") %>%
  group_by(country) %>%
  summarise(count = n(), .groups = "drop") %>%
  arrange(desc(count)) %>%
  filter(!is.na(country)) %>%
  slice_head(n = 15)

ggplot(disney_distribution, aes(x = reorder(country, count), y = count, fill = "Disney Plus")) +
  geom_bar(stat = "identity", position = "dodge") +
  labs(
    title = "Regional Distribution of Content on Disney+",
    x = "Country/Region",
    y = "Number of Titles",
    fill = "Platform"
  ) +
  theme_minimal() +
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1, vjust = 1)
  )

ggplot(netflix_distribution, aes(x = reorder(country, count), y = count, fill = "Netflix")) +
  geom_bar(stat = "identity", position = "dodge") +
  labs(
    title = "Regional Distribution of Content on Netflix",
    x = "Country/Region",
    y = "Number of Titles",
    fill = "Platform"
  ) +
  theme_minimal() +
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1, vjust = 1)
  )

ratings <- moviesandtv %>%
  filter(!grepl("min", rating))%>%
  group_by(platform, rating) %>%
  summarise(count = n(), .groups = "drop") %>%
  arrange(desc(count))

```

```

ggplot(ratings, aes(x = reorder(rating, count), y = count, fill = platform)) +
  geom_bar(stat = "identity", position = "dodge") +
  scale_fill_manual(values = c("Disney Plus" = "blue", "Netflix" = "red")) +
  labs(
    title = "Content Ratings on Disney Plus and Netflix",
    x = "Rating",
    y = "Number of Titles",
    fill = "Platform"
  ) +
  theme_minimal() +
  theme(
    axis.text.x = element_text(angle = 45, hjust = 1, vjust = 1)
  )
moviesandtv_datechange <- moviesandtv %>%
  filter(!is.na(date_added), !is.na(release_year), release_year > 2000) %>%
  mutate(added_year = as.integer(str_trim(str_sub(date_added, -4)))) # Ensure there are no s

ggplot(moviesandtv_datechange, aes(x = release_year, y = added_year, color = platform, size = platform)) +
  geom_point() +
  geom_abline(slope = 1, intercept = 0, linetype = "dashed", color = "grey") +
  scale_color_manual(values = c("Netflix" = "red", "Disney Plus" = "blue")) +
  scale_size_manual(values = c("Netflix" = 1, "Disney Plus" = 1.5)) + # Custom size for each platform
  labs(
    title = "Release Year vs. Year Added for Movies and TV Shows",
    x = "Release Year",
    y = "Year Added",
    color = "Platform"
  ) +
  scale_y_continuous(labels = label_number(accuracy = 1)) + # Format y-axis as integers
  theme_minimal() +
  theme(
    plot.title = element_text(hjust = 0.5), # Center the title
    axis.text.x = element_text(angle = 45, hjust = 1),
    legend.position = "bottom"
  ) +
  guides(size = "none")

```