

Microsoft Power BI Business Analytics Project – 2023 v01

Netflix Global Top 10 Data Analysis

Project Guidelines

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Project Overview

Power BI is a business analytics service provided by Microsoft. The application enables users to visualize data and share insights through a variety of visualizations. It converts data from different sources to build interactive dashboards and Business Intelligence reports.

The purpose of this project is to learn the basic functionality of how the Power BI application interacts with data. As an end-user, you will build a variety of visualizations and use the visualization to analyze the data.

For this project, both the data and base Power BI application (template) is provided to you. Through a series of instructions and videos, you will build the Power BI application. At the end of the project, you will be provided the ability to “test your knowledge” via the Kahoot! - an online game-based learning platform. At a university level, a quiz may be provided to you via your LMS application to test your knowledge of Power BI and the use of the dashboard you created.

Video:

Video Title	Link	Time
Project Overview	https://youtu.be/0qexAH8E_18	2:04

Data Source

The data used in this project is from the website <https://top10.netflix.com/> which is the Netflix weekly Top 10 lists of the most watch TV and films.

Data Dictionary

Field	Field Type	Field Description
week	Date	First date of the week
category	Text	Category of TV Show or Film. There are four different categories: <ul style="list-style-type: none">Film (English)TV (English)Film (Non-English)TV (Non-English)
weekly_rank	Number	Ranking for the given week (1-10)
show_title	Text	Title of the TV Show (series) or Film
weekly_hours_viewed	Number	Total number of hours viewed for the given week as a top 10 TV Show (series) or Film.

Data Statistics:

Date Range: [Week of June 28, 2021 to the week of December 31, 2022.](#)

Total Data Rows: 3,160

Year	Total Unique Shows (TV/Film)	Total Weekly Views
06/28/2021 to 12/31/2021	416	21.32bn
01/01/2022 to 12/31/2022	780	42.39bn

Video:

Video Title	Link	Time
Data Dictionary	https://youtu.be/p004l4cjQg4	2:49

Data Record Example

week	category	weekly_rank	show_title	weekly_hours_viewed
1/31/2022	Films (English)		3 Despicable Me 2	14,340,000
2/7/2022	Films (English)		4 Despicable Me 2	13,080,000
2/14/2022	Films (English)		5 Despicable Me 2	11,510,000
2/21/2022	Films (English)		5 Despicable Me 2	9,750,000
2/28/2022	Films (English)		9 Despicable Me 2	6,890,000
3/7/2022	Films (English)		9 Despicable Me 2	5,720,000
3/21/2022	Films (English)		10 Despicable Me 2	5,750,000
9/5/2022	Films (English)		7 Despicable Me 2	7,590,000
9/12/2022	Films (English)		7 Despicable Me 2	7,160,000

During the Week of 02/07/2022 to 02/13/2022, The English Film “Despicable Me 2” rank #4 with 13,080,000 hours viewed.

https://top10.netflix.com/?week=2022-02-13 67% ☆

Some titles may not be available in all regions. Some territories are included in the countries list for convenience.

1 2 3 4 5 6 7 8 9 10

4

Watched for 13.08 million hours this week. [Watch now](#)

FEBRUARY 7 - FEBRUARY 13, 2022

#	Films (English)	WEEKS IN TOP 10	HOURS VIEWED
1	The Tinder Swindler	2	64,700,000
2	Tall Girl 2	1	27,440,000
3	13 Hours: The Secret Soldiers of Benghazi	2	13,270,000
4	Despicable Me 2	2	13,080,000
5	Home Team	3	10,550,000
6	Despicable Me	2	8,950,000
7	Dora and the Lost City of Gold	1	8,750,000
8	Faster	2	6,850,000
9	The Power of the Dog	3	5,460,000
10	Don't Look Up	8	5,360,000

Access to the Power BI Application

Power BI Desktop

You have the ability to download a free version of Power BI Desktop.

You can do so by going to the following URL:

<https://www.microsoft.com/en-us/download/details.aspx?id=58494>

Power BI Cloud

From your university's Microsoft cloud application, you can access Power BI via the applications portal. This is also known as "Software as a Service (SAAS)".

- Your Microsoft Office 365 Portal may already have the Power BI application installed and ready for you to use.
- You may need to create an account by going to <https://app.powerbi.com/>
- Use your university information to set up your account accordingly.

Video:

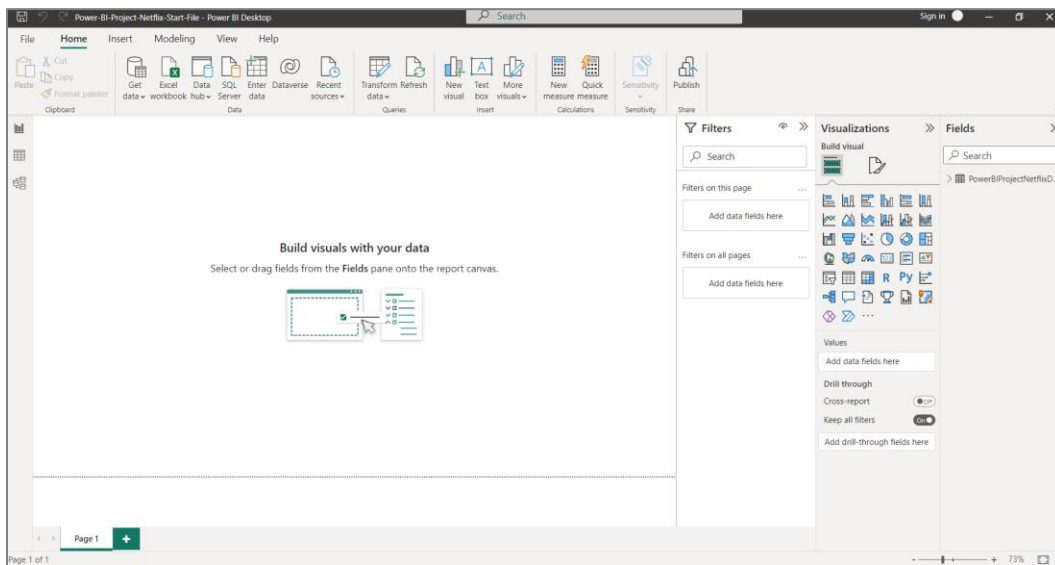
Video Title	Link	Time
Access to the Power BI Application and Start File	https://youtu.be/Nxi6Da7SO0s	5:12

Access to the Project Start File

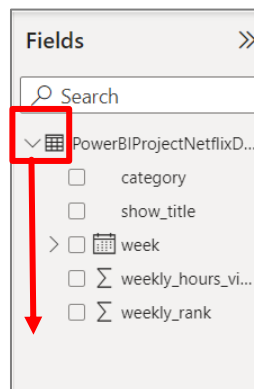
The project start file is provided to you from your university professor or instructor. The project start file is name “Power-BI-Project-Netflix-Start-File.pbix”. You can also access the project start file from the following:

Power BI Desktop

If you are using the Power BI Desktop, once you have downloaded the project start file to your computer, you can simply access the start file by selecting “File” then “Open Reports”. Navigate to where you stored the start file “Power-BI-Project-Netflix-Start-File.pbix “ and open the file. Once completed, you should see the following:



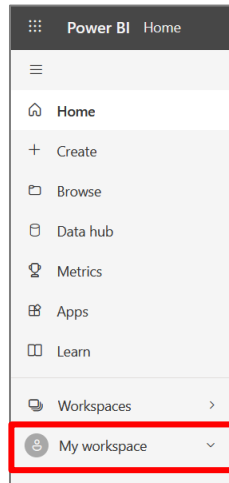
Under the files tab, if you click the expand icon, you should see a list of fields (variables) for the data.



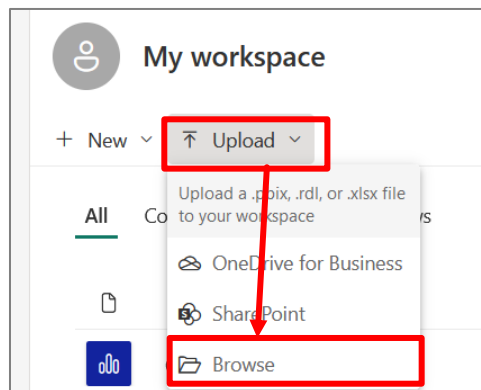
Power BI Cloud (Power BI Service)

If you are using the Power BI Cloud, once you have downloaded the project start file to your computer, you will need to upload the project start file to your cloud storage.

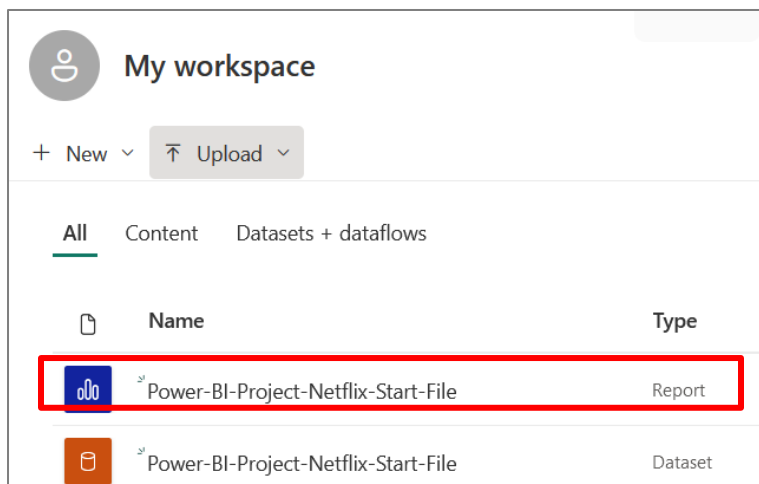
1. Open the Power BI application via the cloud.
2. From the Power BI application home, click on “My workspace” link



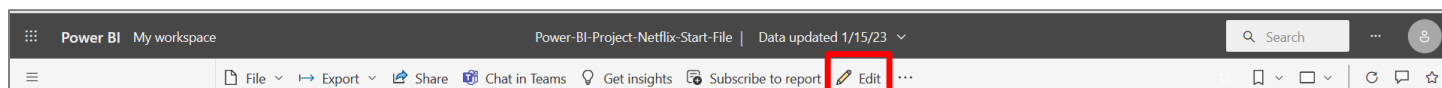
3. Upload the Start File by clicking on the “upload” icon then browse



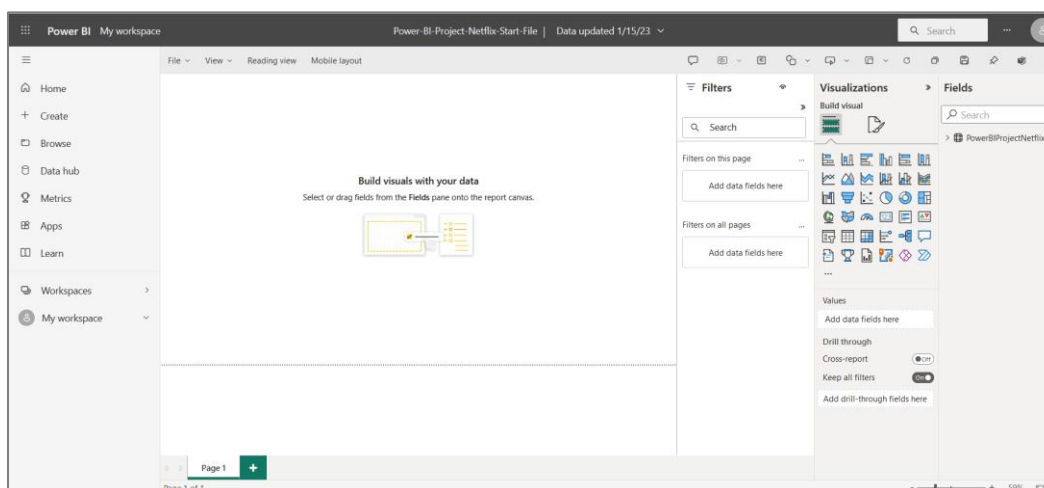
4. Navigate to where you stored the “Power-BI-Project-Netflix-Start-File.pbix” and select the file to upload to your “My workspace” directory. Once completed the with the upload process, you should see the file in your “My workspace” directory.



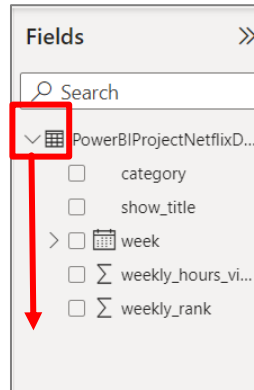
5. Click on the file to open the file. You should see the following at the top. Click on the “edit” icon.



You should now be able to edit your Power BI application on the cloud. You should see the following:



6. Under the files tab, if you click the expand icon, you should see a list of fields (variables) for the data.



Video:

Video Title	Link	Time
Access to the Power BI Application and Start File	https://youtu.be/Nxi6Da7SO0s	5:12

Power BI Navigation Overview

The following video provides a brief overview of the navigations/functions of the Power BI application.

Please note:

1. The videos are recorded use the Power BI Cloud Application (Software an a Service – SAAS).
The Power BI Cloud Application is also known as Power BI Service.
2. Microsoft provides updates and new features to the Power BI application periodically. The below video and other videos may not capture new features and functionality.

Video:

Video Title	Link	Time
Power BI Navigation Overview	https://youtu.be/WM0dXxIQ58g	

Page Header

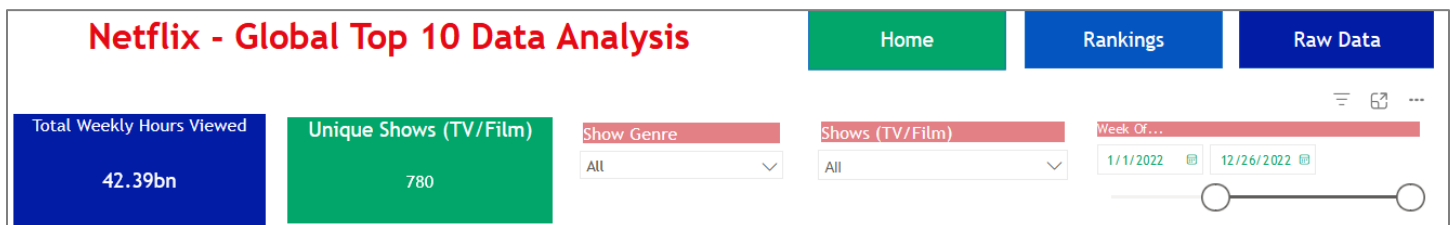
As a first step in designing the Power BI application, you will create a page header with the following visualizations:

- Text Box “Netflix - Global Top 10 Analysis”
- Rectangle shapes for page navigation (Home, Rankings and Raw Data)
- Cards (Total Weekly Hours Viewed and Unique Shows)
- Slicers (Category, Shows, and Week)

Notes:

- Select any color combination you wish for the visualizations.
- Assign actions to the rectangle shapes to each of the three pages after you create the pages.
- For the Card “Total Weekly Hours Viewed”:
 - Sum the **weekly_hours_viewed** field
 - Display in billions with two decimal places
- For the Card “Unique Shows”:
 - Count (distinct) the **show_title** field
 - Display as a whole number
- For the Slicer “Category”, use the **category** field (title Show Genre)
- For the Slicer “Shows”, use the **show_title** field (set the search to on)
- For the Slicer “Date”, use the **week** field
- For the Slicer “Category” and “Shows”, set the “Show ‘Select All’ option as an option in the slicer” to on.
- Under “view” for the application, make sure the “Sync slicers pane” is set to on

Potential Solution:



Note: Visualization filter = 2022 Data

Videos:

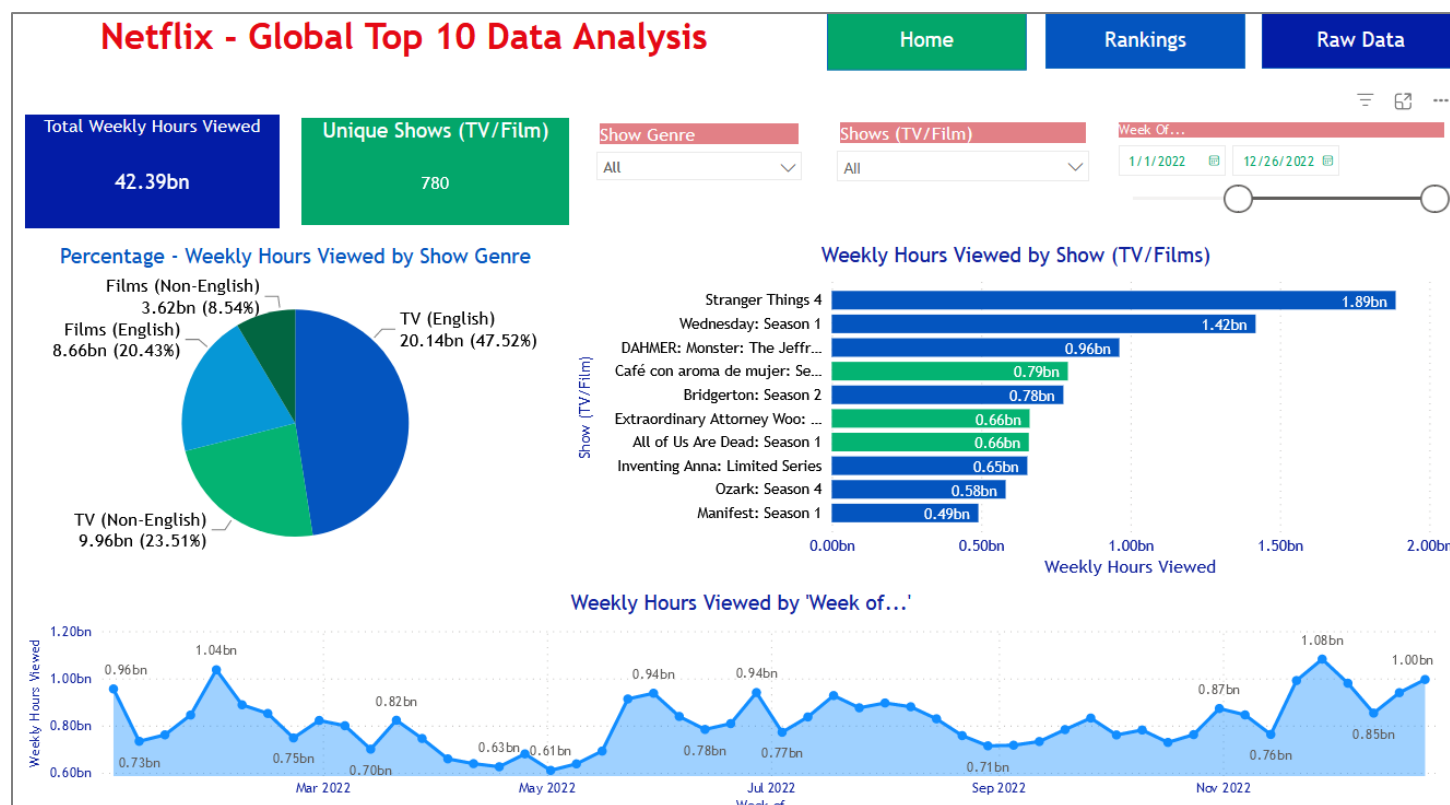
Video Title	Link	Time
Add a Text Box	https://youtu.be/dAJ0uAkfP48	2:49
Visualization – Cards	https://youtu.be/g6AuT_Gemhw	8:08
Visualization – Slicers	https://youtu.be/Y_xdPgVCqvA	7:40
Create Shapes	https://youtu.be/_Zt313VvDnU	5:15
Create Pages	https://youtu.be/6Pd7bgffg_4	6:34
Sync Slicers	https://youtu.be/fTYW_jacEzY	1:53

Home Page

The home page will consist of the following visualizations:

- Pie Chart
- Stacked Bar Chart
- Area Chart

Potential Solution:



Note: Visualization filter = 2022 Data

Videos:

Video Title	Link	Time
Visualization - Pie Chart	https://youtu.be/Xp9rJ9dsWCY	6:31
Visualization - Stacked Bar Chart	https://youtu.be/A_HMrHUEDSw	11:16
Visualization - Area Chart	https://youtu.be/NpPxHb8GPEk	6:27

Design Notes:

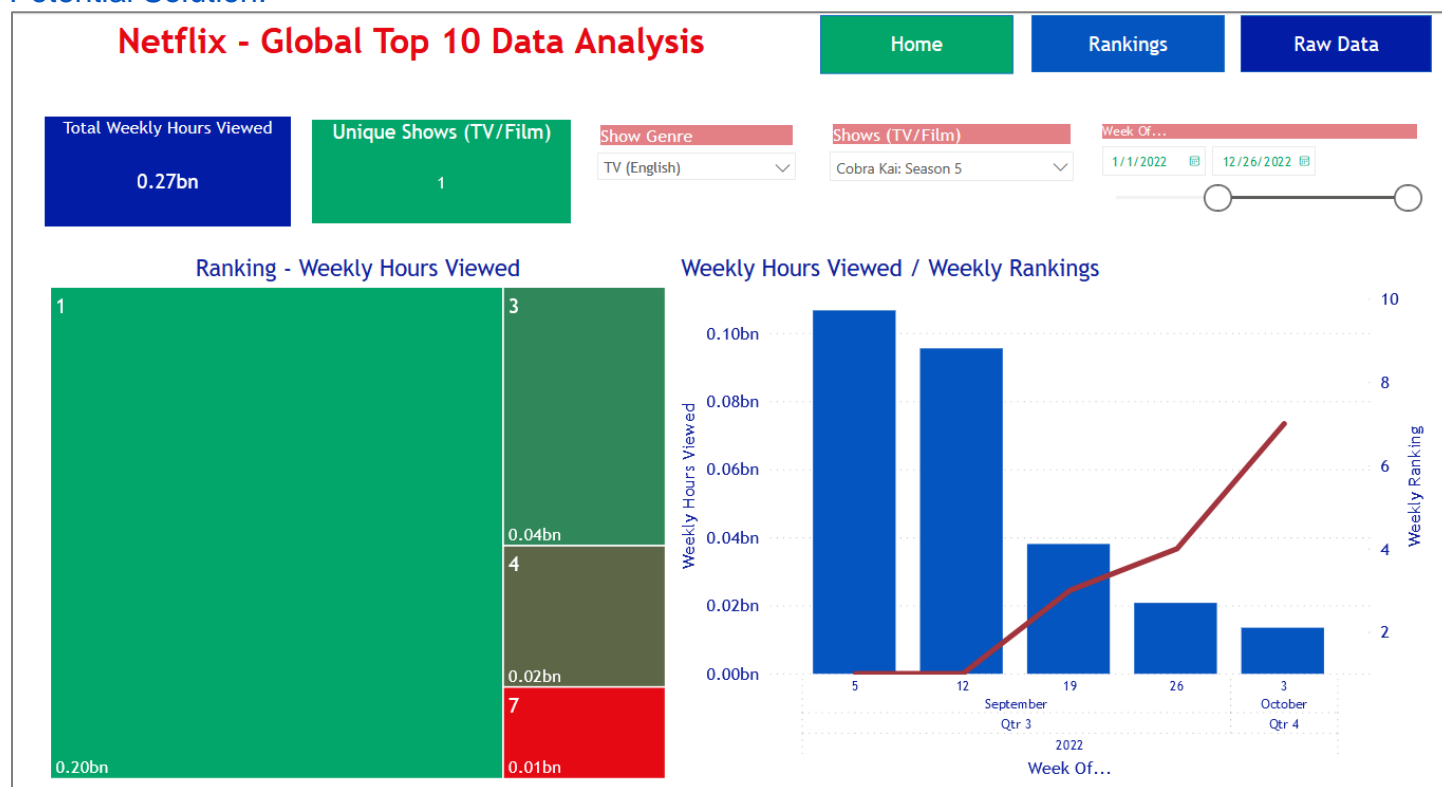
Visualization	Design Notes
Visualization – Pie Chart	<ul style="list-style-type: none"> Legend = category field Value = SUM weekly_hours_viewed field Visualization Title = Percentage - Weekly Hours Viewed by Show Genre Set different colors for each category (Slices) For the detail labels set the position to “Outside” and the Label contents to “All detail labels” For the values set the display units to “Billions” and the number of decimal places to 2 Set all fonts and colors consistently. Turn the tooltips “on”; set the fonts/colors and background colors to match the theme design.
Visualization – Stacked Bar Chart	<ul style="list-style-type: none"> Y-Axis = show_title field X-Axis = SUM weekly_hours_viewed field Legend = category field Visualization Title = Weekly Hours Viewed by Show (TV/Films) For the colors of the bars (legends), set the Legend Bars (category field) to match the same colors used in the Visualization – Pie Chart For the X-Axis values set the display units to “Billions” and the number of decimal places to 2 For the values of the bars, set the display units to “Billions” and the number of decimal places to 2 Set all fonts and colors consistently. Turn the tooltips “on”; set the fonts/colors and background colors to match the theme design. Set a filter for this specific visualization with the following criteria: <ul style="list-style-type: none"> Filter = show_title field Filter type = Top N Show items = Top 25 By value = SUM weekly_hours_viewed field
Visualization – Area Chart	<ul style="list-style-type: none"> X-Axis = week field Y-Axis = SUM weekly_hours_viewed field Visualization Title = Weekly Hours Viewed by 'Week of...' Turn the Markers “on” – set the marker shape, size and color to match the overall design theme Turn the Data Labels “on” - set the display units to “Billions” and the number of decimal places to 2; set the size and color to match the overall design theme Set all fonts and colors consistently. Turn the tooltips “on”; set the fonts/colors and background colors to match the theme design.

Rankings Page

The home page will consist of the following visualization:

- Treemap
- Line and Cluster Column Chart

Potential Solution:



Note: Visualization filter = 2022 Data; TV (English) Show Genre; Cobra Kai: Season 5

Videos:

Video Title	Link	Time
Visualization - Treemap	https://youtu.be/Ab_Xu_hbMsl	5:44
Visualization - Line and Stacked Column Chart	https://youtu.be/qhQdr9myn4c	8:08

Design Notes:

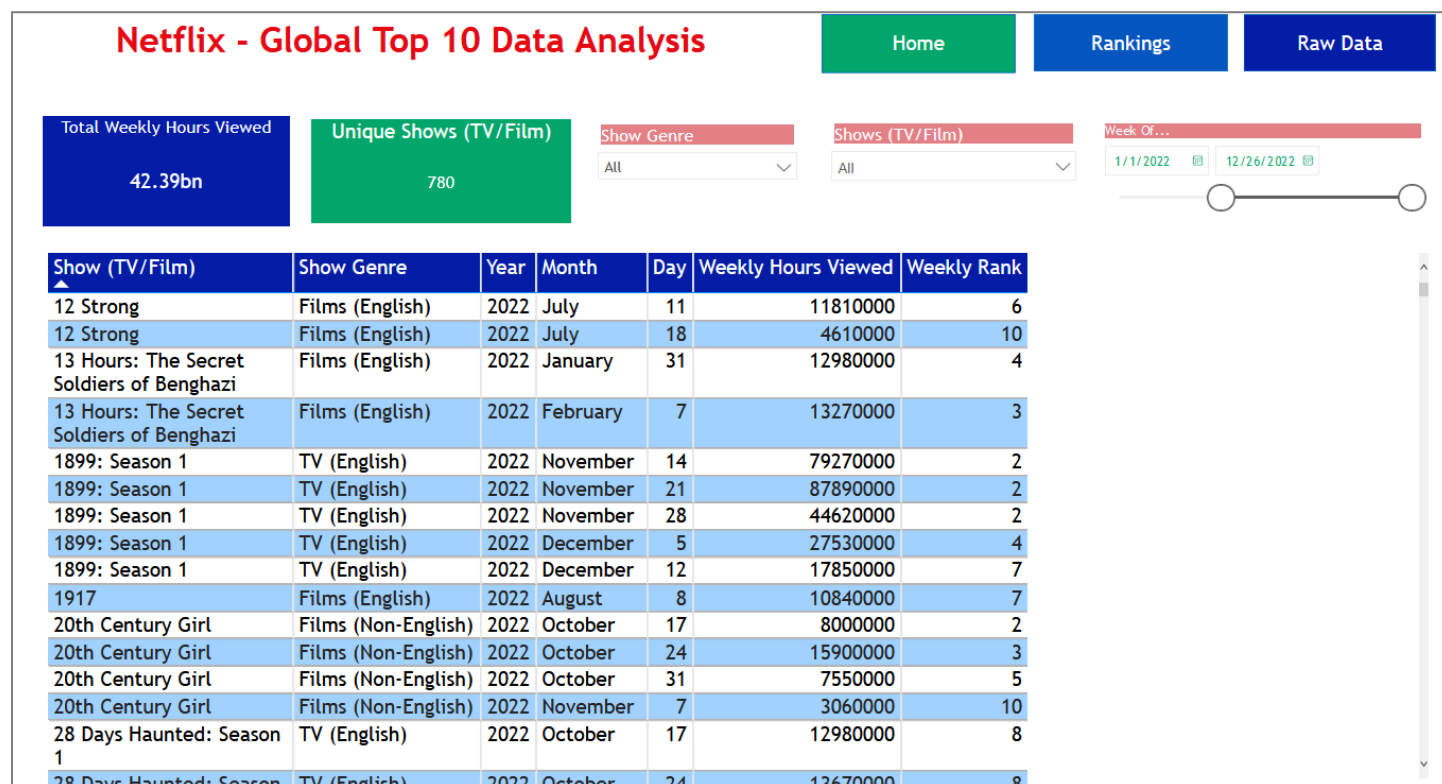
Visualization	Design Notes
Visualization – Treemap	<ul style="list-style-type: none"> • Category = weekly_rank field • Value = SUM weekly_hours_viewed field • Visualization Title = Ranking - Weekly Hours Viewed • For the colors, use the advance controls and select one color for the Minimum (Lowest Value) and a different color for the Maximum value (Highest Value). The colors should be consistent with the theme design. • Turn on the values set the display units to “Billions” and the number of decimal places to 2. • Turn on the category labels. • Set all fonts and colors consistently. • Turn the tooltips “on”; set the fonts/colors and background colors to match the theme design.
Visualization – Line and Stacked Column Chart	<ul style="list-style-type: none"> • Column Legend = category field • X-Axis = week field • Column Y-Axis = SUM weekly_hours_viewed field • Line Y-Axis = MAX of weekly_rank field • Visualization Title = Weekly Hours Viewed / Weekly Rankings • For the colors of the bars (legends), set the Legend Bars (category field) to match the same colors used in the Visualization – Pie Chart • Set the secondary y-axis range to 1 and 10 • For the values set the display units to “Billions” and the number of decimal places to 2 • Set all fonts and colors consistently. • Turn the tooltips “on”; set the fonts/colors and background colors to match the theme design.

Raw Data Page

The home page will consist of the following visualization:

- Table

Potential Solution:



Note: Visualization filter = 2022 Data

Videos:

Video Title	Link	Time
Visualization – Table	https://youtu.be/scXZkl000_Y	5:32

Design Notes:

Visualization	Design Notes
Visualization – Table	<ul style="list-style-type: none">• Add all fields from the PowerBIProjectNetflix table to the visualization table in the following order:<ul style="list-style-type: none">○ Show_title○ Category○ Week○ Weekly_hours_viewed○ Weekly_Rank• Rename fields for this visual for a professional look/feel• Values – set the background color and alternate background color to match the theme of the design.• Turn off the totals.

Project Videos

Videos related to the development and functionality of the Power BI Application can be found on the following You Tube Playlist:

Video Title	Link	Time
Project Overview	https://youtu.be/0qexAH8E_18	2:04
Data Dictionary	https://youtu.be/p004I4cjQg4	2:49
Access to the Power BI Application & Start File	https://youtu.be/Nxi6Da7SO0s	5:12
Power BI Navigation Overview	https://youtu.be/WM0dXxIQ58g	3:53
Add a Text Box	https://youtu.be/dAJ0uAkfP48	2:49
Visualization – Cards	https://youtu.be/g6AuT_Gemhw	8:08
Visualization – Slicers	https://youtu.be/Y_xdPgVCqvA	7:40
Create Shapes	https://youtu.be/_Zt313VvDnU	5:15
Create Pages	https://youtu.be/6Pd7bgffg_4	6:34
Snyc Slicers	https://youtu.be/fTYW_jacEzY	1:53
Visualization - Pie Chart	https://youtu.be/Xp9rJ9dsWCY	6:31
Visualization - Stacked Bar Chart	https://youtu.be/A_HMrHUEDSw	11:16
Visualization - Area Chart	https://youtu.be/NpPxHb8GPEk	6:27
Visualization - Treemap	https://youtu.be/Ab_Xu_hbMsl	5:44
Visualization - Line and Stacked Column Chart	https://youtu.be/qhQdr9myn4c	8:08
Visualization – Table	https://youtu.be/scXZkl000_Y	5:32
Application Usage and Filtering	https://youtu.be/BZd2XIGZUMk	11:03
Test your knowledge – Kahoots!	https://youtu.be/bKebvzHPMt4	1:38
Project Submission	https://youtu.be/C0GI_EYFnuM	1:18

Total approximate time: 1 Hour and 45 Minutes

Playlist:

<https://youtube.com/playlist?list=PLI4F1FsgnyHAKIK-RBwSxxoh8d1qqavTI>

Project Resources

Color ideas:

<https://color.adobe.com/create>

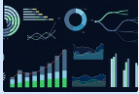



<https://colorhunt.co/>

Font ideas:

<https://learn.microsoft.com/en-us/typography/font-list/>

Test your knowledge – Kahoot!

The following below are links to Kahoot! games for you to test your knowledge. Please feel free to play the games as often as you wish. Answers are provided at the end of each question. Each game consists of eight questions.

Kahoot!	Scope	Link
	Power BI Functionality 01	https://kahoot.it/challenge/002857039
	Power BI Functionality 02	https://kahoot.it/challenge/00293044
	Power BI Data Analysis 01	https://kahoot.it/challenge/006575343
	Power BI Data Analysis 02	https://kahoot.it/challenge/007079847