INVESTIGATING NETFLIX MOVIES

Presented By

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Investigating_Netflix_Movies

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1 Project: Investigating Netflix Movies

2 Key Point:

2.0.1 Your friend suspects that movies are getting shorter and they've found some initial evidence of this. Having peaked your interest, you will perform exploratory data analysis (EDA) on the netflix_data.csv data to understand what may be contributing to movies getting shorter over time.

2.1 Import Libraries

```python
[1]: import pandas as pd
     import matplotlib.pyplot as pt
```

2.2 Import File

```python
[2]: # pd.set_option('Display.max_rows',None)
     # pd.set_option('Display.width',None)
     # pd.set_option('Display.max_columns',None)
```

2.2.1 Load the CSV file and store as netflix_df

```python
[3]: netflix_df=pd.read_csv("netflix_data.csv")
     netflix_df
```

```
[3]:       show_id     type                              title  \
      0          s1  TV Show                                  3%
      1          s2    Movie                                7:19
      2          s3    Movie                               23:59
      3          s4    Movie                                   9
      4          s5    Movie                                  21
      ...       ...      ...                                 ...
      7782    s7783    Movie                                Zozo
      7783    s7784    Movie                              Zubaan
      7784    s7785    Movie                   Zulu Man in Japan
      7785    s7786  TV Show                Zumbo's Just Desserts
      7786    s7787    Movie  ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS
```

1

```
            director                                              cast  \
0                NaN  João Miguel, Bianca Comparato, Michel Gomes, R…
1   Jorge Michel Grau  Demián Bichir, Héctor Bonilla, Oscar Serrano, …
2        Gilbert Chan  Tedd Chan, Stella Chung, Henley Hii, Lawrence …
3         Shane Acker  Elijah Wood, John C. Reilly, Jennifer Connelly…
4      Robert Luketic  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar…
…                  …                                               …
7782      Josef Fares  Imad Creidi, Antoinette Turk, Elias Gergi, Car…
7783      Mozez Singh  Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan…
7784             NaN                                          Nasty C
7785             NaN                     Adriano Zumbo, Rachel Khoo
7786       Sam Dunn                                              NaN

            country        date_added  release_year  duration  \
0            Brazil    August 14, 2020          2020         4
1            Mexico  December 23, 2016          2016        93
2         Singapore  December 20, 2018          2011        78
3     United States  November 16, 2017          2009        80
4     United States    January 1, 2020          2008       123
…                …                 …             …         …
7782         Sweden   October 19, 2020          2005        99
7783          India      March 2, 2019          2015       111
7784            NaN  September 25, 2020          2019        44
7785      Australia   October 31, 2020          2019         1
7786  United Kingdom      March 1, 2020          2019        90

                                      description            genre
0     In a future where the elite inhabit an island …  International TV
1     After a devastating earthquake hits Mexico Cit…           Dramas
2     When an army recruit is found dead, his fellow…    Horror Movies
3     In a postapocalyptic world, rag-doll robots hi…           Action
4     A brilliant group of students become card-coun…           Dramas
…                                               …                …
7782  When Lebanon's Civil War deprives Zozo of his …           Dramas
7783  A scrappy but poor boy worms his way into a ty…           Dramas
7784  In this documentary, South African rapper Nast…     Documentaries
7785  Dessert wizard Adriano Zumbo looks for the nex…  International TV
7786  This documentary delves into the mystique behi…     Documentaries

[7787 rows x 11 columns]
```

2.2.2 Displaying Few Records

```
[4]: netflix_df.head(10)
```

```
[4]:    show_id      type   title           director  \
     0       s1  TV Show      3%               NaN
```

```
1     s2     Movie    7:19    Jorge Michel Grau
2     s3     Movie   23:59        Gilbert Chan
3     s4     Movie       9        Shane Acker
4     s5     Movie      21      Robert Luketic
5     s6   TV Show      46         Serdar Akar
6     s7     Movie     122     Yasir Al Yasiri
7     s8     Movie     187      Kevin Reynolds
8     s9     Movie     706       Shravan Kumar
9    s10     Movie    1920        Vikram Bhatt
```

```
                                              cast          country  \
0  João Miguel, Bianca Comparato, Michel Gomes, R…         Brazil
1  Demián Bichir, Héctor Bonilla, Oscar Serrano, …         Mexico
2  Tedd Chan, Stella Chung, Henley Hii, Lawrence …      Singapore
3  Elijah Wood, John C. Reilly, Jennifer Connelly…  United States
4  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar…  United States
5  Erdal Beşikçioğlu, Yasemin Allen, Melis Birkan…         Turkey
6  Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed…          Egypt
7  Samuel L. Jackson, John Heard, Kelly Rowan, Cl…  United States
8  Divya Dutta, Atul Kulkarni, Mohan Agashe, Anup…          India
9  Rajneesh Duggal, Adah Sharma, Indraneil Sengup…          India
```

```
          date_added  release_year  duration  \
0    August 14, 2020          2020         4
1  December 23, 2016          2016        93
2  December 20, 2018          2011        78
3  November 16, 2017          2009        80
4    January 1, 2020          2008       123
5       July 1, 2017          2016         1
6       June 1, 2020          2019        95
7   November 1, 2019          1997       119
8      April 1, 2019          2019       118
9  December 15, 2017          2008       143
```

```
                                         description             genre
0  In a future where the elite inhabit an island …  International TV
1  After a devastating earthquake hits Mexico Cit…           Dramas
2  When an army recruit is found dead, his fellow…    Horror Movies
3  In a postapocalyptic world, rag-doll robots hi…           Action
4  A brilliant group of students become card-coun…           Dramas
5  A genetics professor experiments with a treatm…  International TV
6  After an awful accident, a couple admitted to …    Horror Movies
7  After one of his high school students attacks …           Dramas
8  When a doctor goes missing, his psychiatrist w…    Horror Movies
9  An architect and his wife move into a castle t…    Horror Movies
```

2.2.3 Filter the data to remove TV shows and store as netflix_subset

```
[5]: netflix_subset=netflix_df[netflix_df['type'] == 'Movie']
     netflix_subset
```

```
[5]:      show_id   type                            title  \
     1        s2   Movie                             7:19
     2        s3   Movie                            23:59
     3        s4   Movie                                9
     4        s5   Movie                               21
     6        s7   Movie                              122
     ...     ...   ...                              ...
     7781   s7782   Movie                             Zoom
     7782   s7783   Movie                             Zozo
     7783   s7784   Movie                           Zubaan
     7784   s7785   Movie                 Zulu Man in Japan
     7786   s7787   Movie   ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS

                     director                                      cast  \
     1        Jorge Michel Grau   Demián Bichir, Héctor Bonilla, Oscar Serrano, …
     2              Gilbert Chan   Tedd Chan, Stella Chung, Henley Hii, Lawrence …
     3               Shane Acker   Elijah Wood, John C. Reilly, Jennifer Connelly…
     4            Robert Luketic   Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar…
     6            Yasir Al Yasiri   Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed…
     ...                  ...                                      ...
     7781          Peter Hewitt   Tim Allen, Courteney Cox, Chevy Chase, Kate Ma…
     7782           Josef Fares   Imad Creidi, Antoinette Turk, Elias Gergi, Car…
     7783           Mozez Singh   Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan…
     7784                   NaN                                   Nasty C
     7786             Sam Dunn                                       NaN

                   country         date_added  release_year  duration  \
     1              Mexico   December 23, 2016          2016        93
     2           Singapore   December 20, 2018          2011        78
     3       United States   November 16, 2017          2009        80
     4       United States     January 1, 2020          2008       123
     6               Egypt        June 1, 2020          2019        95
     ...              ...                ...           ...        ...
     7781    United States    January 11, 2020          2006        88
     7782           Sweden    October 19, 2020          2005        99
     7783            India       March 2, 2019          2015       111
     7784              NaN  September 25, 2020          2019        44
     7786   United Kingdom       March 1, 2020          2019        90

                                         description         genre
     1     After a devastating earthquake hits Mexico Cit…          Dramas
     2     When an army recruit is found dead, his fellow…  Horror Movies
```

```
3      In a postapocalyptic world, rag-doll robots hi…          Action
4      A brilliant group of students become card-coun…          Dramas
6      After an awful accident, a couple admitted to …   Horror Movies
…                                                          …              …
7781   Dragged from civilian life, a former superhero…        Children
7782   When Lebanon's Civil War deprives Zozo of his …          Dramas
7783   A scrappy but poor boy worms his way into a ty…          Dramas
7784   In this documentary, South African rapper Nast…   Documentaries
7786   This documentary delves into the mystique behi…   Documentaries

[5377 rows x 11 columns]
```

2.2.4 Investigate and subset the Netflix movie data, keeping only the columns "title", "country", "genre", "release_year", "duration",and saving this into a new DataFrame called netflix_movies.

```
[6]: netflix_movies=netflix_subset[["title", "country", "genre", "release_year",␣
     ↪"duration"]]
     netflix_movies
```

```
[6]:                                           title          country           genre  \
     1                                          7:19           Mexico          Dramas
     2                                         23:59        Singapore   Horror Movies
     3                                             9    United States          Action
     4                                            21    United States          Dramas
     6                                           122            Egypt   Horror Movies
     …                                             …                …               …
     7781                                        Zoom    United States        Children
     7782                                        Zozo           Sweden          Dramas
     7783                                      Zubaan            India          Dramas
     7784                           Zulu Man in Japan              NaN   Documentaries
     7786   ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS   United Kingdom   Documentaries

           release_year  duration
     1              2016        93
     2              2011        78
     3              2009        80
     4              2008       123
     6              2019        95
     …                 …         …
     7781           2006        88
     7782           2005        99
     7783           2015       111
     7784           2019        44
     7786           2019        90

     [5377 rows x 5 columns]
```

2.2.5 Filter netflix_movies to find the movies that are strictly shorter than 60 minutes, saving the resulting DataFrame as short_movies; inspect the result to find possible contributing factors.

```
[7]: short_movies=netflix_movies[netflix_movies['duration'] < 60]
     short_movies
```

```
[7]:                                                  title          country  \
     35                                            #Rucker50    United States
     55                     100 Things to do Before High School   United States
     67        13TH: A Conversation with Oprah Winfrey & Ava …              NaN
     101                                   3 Seconds Divorce           Canada
     146                                        A 3 Minute Hug           Mexico
     ...                                                    ...              ...
     7679                       WWII: Report from the Aleutians   United States
     7692  Ya no estoy aquí: Una conversación entre Guill…              NaN
     7718                     Yoo Byung Jae: Discomfort Zone      South Korea
     7771                                                 Zion    United States
     7784                                   Zulu Man in Japan              NaN

                   genre   release_year   duration
     35     Documentaries          2016         56
     55     Uncategorized          2014         44
     67     Uncategorized          2017         37
     101    Documentaries          2018         53
     146    Documentaries          2019         28
     ...              ...           ...        ...
     7679   Documentaries          1943         45
     7692   Documentaries          2020         15
     7718         Stand-Up          2018         54
     7771   Documentaries          2018         12
     7784   Documentaries          2019         44

     [420 rows x 5 columns]
```

2.2.6 Using a for loop and if/elif statements, iterate through the rows of netflix_movies and assign colors of your choice to four genre groups ("Children", "Documentaries", "Stand-Up", and "Other" for everything else). Save the results in a colors list.

```
[8]: colors=[]
     for label , row in netflix_movies.iterrows():
         if row['genre']=="Children":
             colors.append('blue')
         elif row['genre']=="Documentaries":
             colors.append('green')
         elif row['genre']=="Stand-Up":
             colors.append('yellow')
```
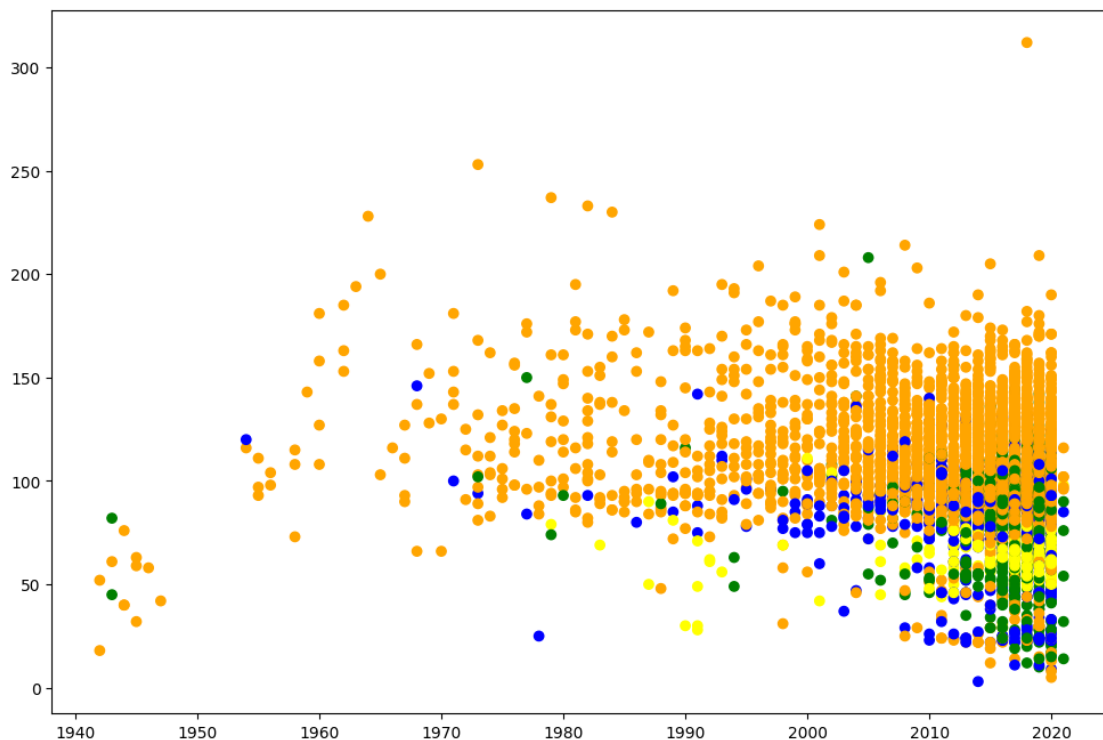
```
        else:
            colors.append('orange')
```

[9]: `colors[:10]`

[9]:
```
['orange',
 'orange',
 'orange',
 'orange',
 'orange',
 'orange',
 'orange',
 'orange',
 'orange',
 'green']
```

2.2.7 Initialize a matplotlib figure object called fig and create a scatter plot for movie duration by release year using the colors list to color the points and using the labels "Release year" for the x-axis, "Duration (min)" for the y-axis, and the title "Movie Duration by Year of Release".¶

[10]:
```
fig=pt.figure(figsize=(12,8))
pt.scatter(netflix_movies.release_year,netflix_movies.duration,c=colors)
pt.show()
```

[ ]: