

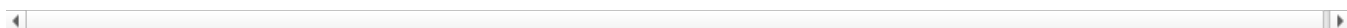
```
In [4]: # Importing pandas and matplotlib
import pandas as pd
import matplotlib.pyplot as plt
```

```
In [7]: # Read in the Netflix CSV as a DataFrame
netflix_df = pd.read_csv(r'C:\Users\DELL\Downloads\netflix_data.csv')
netflix_df
```

Out[7]:

	show_id	type	title	director	cast	country	date_added	release_year	duration	description	genre
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	4	In a future where the elite inhabit an island ...	International TV
1	s2	Movie	7:19	Jorge Michel Grau	Demian Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	93	After a devastating earthquake hits Mexico Cit...	Dramas
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	78	When an army recruit is found dead, his fellow...	Horror Movies
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	2009	80	In a postapocalyptic world, rag-doll robots hi...	Action
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	123	A brilliant group of students become card-coun...	Dramas
...
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden	October 19, 2020	2005	99	When Lebanon's Civil War deprives Zozo of his ...	Dramas
7783	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	2015	111	A scrappy but poor boy worms his way into a ty...	Dramas
7784	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	2019	44	In this documentary, South African rapper Nast...	Documentaries
7785	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019	1	Dessert wizard Adriano Zumbo looks for the nex...	International TV
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom	March 1, 2020	2019	90	This documentary delves into the mystique behi...	Documentaries

7787 rows × 11 columns



```
In [14]: # Subset the DataFrame for type "Movie"
netflix_subset = netflix_df[netflix_df["type"] == "Movie"]
netflix_subset
```

Out[14]:

	show_id	type	title	director	cast	country	date_added	release_year	duration	description	genre
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	93	After a devastating earthquake hits Mexico Cit...	Dramas
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	78	When an army recruit is found dead, his fellow...	Horror Movies
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	2009	80	In a postapocalyptic world, rag-doll robots hi...	Action
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	123	A brilliant group of students become card-coun...	Dramas
6	s7	Movie	122	Yasir Al Yasiri	Amina Khalil, Ahmed Dawood, Tarek Lotfy, Ahmed...	Egypt	June 1, 2020	2019	95	After an awful accident, a couple admitted to ...	Horror Movies
...
7781	s7782	Movie	Zoom	Peter Hewitt	Tim Allen, Courteney Cox, Chevy Chase, Kate Ma...	United States	January 11, 2020	2006	88	Dragged from civilian life, a former superhero...	Children
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden	October 19, 2020	2005	99	When Lebanon's Civil War deprives Zozo of his ...	Dramas
7783	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	2015	111	A scrappy but poor boy worms his way into a ty...	Dramas
7784	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	2019	44	In this documentary, South African rapper Nast...	Documentaries
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom	March 1, 2020	2019	90	This documentary delves into the mystique behi...	Documentaries

5377 rows × 11 columns

In [15]:

```
# Select only the columns of interest
netflix_movies = netflix_subset[["title", "country", "genre", "release_year", "duration"]]
netflix_movies
```

Out[15]:

	title	country	genre	release_year	duration
1	7:19	Mexico	Dramas	2016	93
2	23:59	Singapore	Horror Movies	2011	78
3	9	United States	Action	2009	80
4	21	United States	Dramas	2008	123
6	122	Egypt	Horror Movies	2019	95
...
7781	Zoom	United States	Children	2006	88
7782	Zozo	Sweden	Dramas	2005	99
7783	Zubaan	India	Dramas	2015	111
7784	Zulu Man in Japan	NaN	Documentaries	2019	44
7786	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	United Kingdom	Documentaries	2019	90

5377 rows × 5 columns

In [16]:

```
# Filter for durations shorter than 60 minutes
short_movies = netflix_movies[netflix_movies.duration < 60]
short_movies
```

Out[16]:

	title	country	genre	release_year	duration
35	#Rucker50	United States	Documentaries	2016	56
55	100 Things to do Before High School	United States	Uncategorized	2014	44
67	13TH: A Conversation with Oprah Winfrey & Ava ...	NaN	Uncategorized	2017	37
101	3 Seconds Divorce	Canada	Documentaries	2018	53
146	A 3 Minute Hug	Mexico	Documentaries	2019	28
...
7679	WWII: Report from the Aleutians	United States	Documentaries	1943	45
7692	Ya no estoy aquí: Una conversación entre Guill...	NaN	Documentaries	2020	15
7718	Yoo Byung Jae: Discomfort Zone	South Korea	Stand-Up	2018	54
7771	Zion	United States	Documentaries	2018	12
7784	Zulu Man in Japan	NaN	Documentaries	2019	44

420 rows × 5 columns

In [12]:

```
# Define an empty list
colors = []

# Iterate over rows of netflix_movies
for label, row in netflix_movies.iterrows():
    if row["genre"] == "Children":
        colors.append("black")
    elif row["genre"] == "Documentaries":
        colors.append("blue")
    elif row["genre"] == "Stand-Up":
        colors.append("green")
    else:
        colors.append("red")

# Inspect the first 10 values in your list
colors[:10]
```

Out[12]:

```
['red', 'red', 'red', 'red', 'red', 'red', 'red', 'red', 'red', 'blue']
```

In [13]:

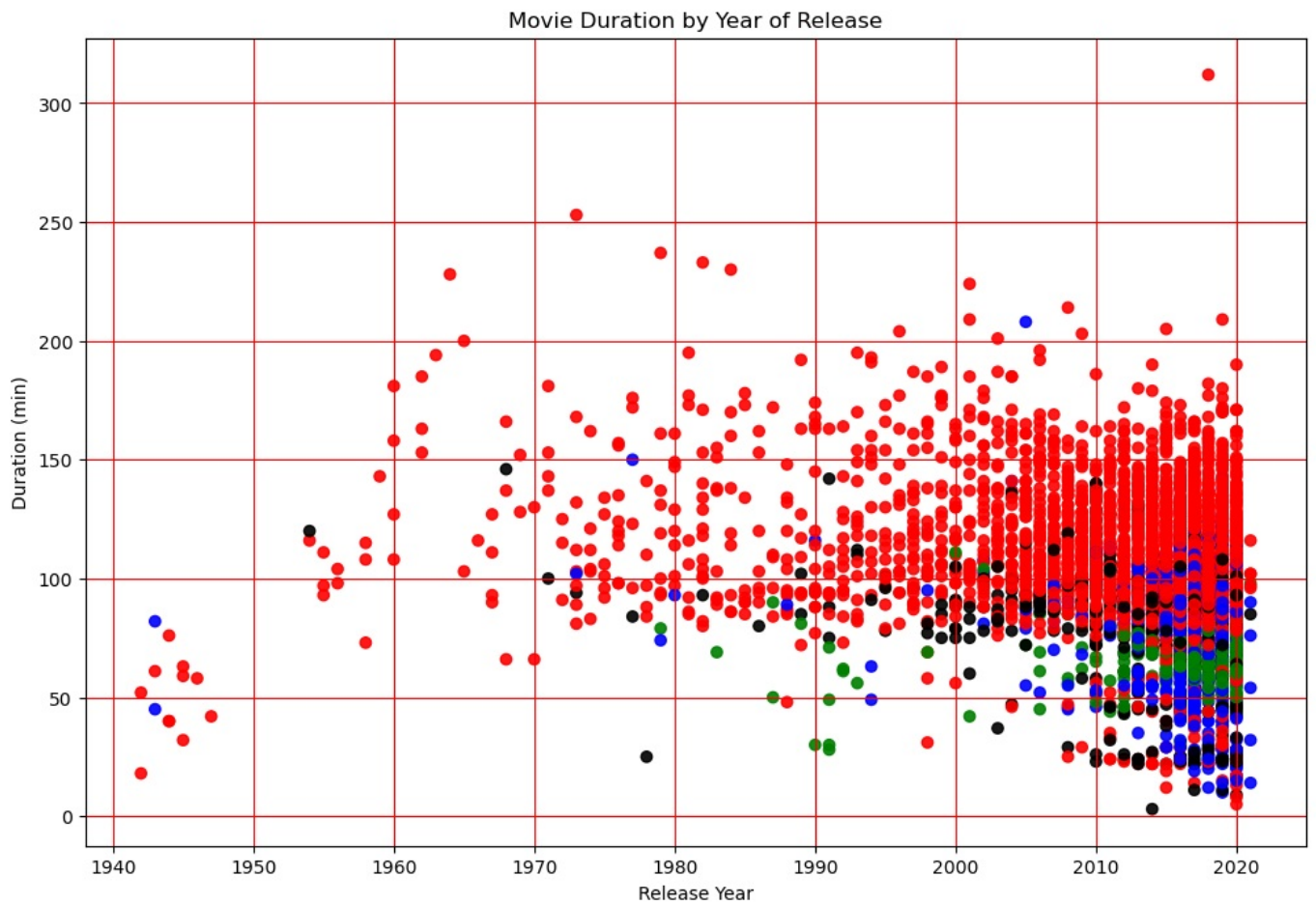
```
# Set the figure style and initialize a new figure
fig = plt.figure(figsize=(12, 8))

# Create a scatter plot of duration versus release_year
plt.scatter(netflix_movies.release_year, netflix_movies.duration, c=colors, alpha=0.9)

# Create a title and axis labels
plt.title('Movie Duration by Year of Release')
plt.xlabel('Release Year')
plt.ylabel('Duration (min)')

# Adding a grid to the plot
plt.grid(True, color='red')
```

```
plt.show()
```



```
In [ ]: # Are we certain that movies are getting shorter?  
are_movies_getting_shorter = 'NO'
```

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