Netflix! What started in 1997 as a DVD rental service has since exploded into one of the largest entertainment and media companies.

Given the large number of movies and series available on the platform, it is a perfect opportunity to flex my exploratory data analysis skills and dive into the entertainment industry.

I have been supplied with the dataset `netflix_data.csv`, along with the following table detailing the column names and descriptions

The data

netflix_data.csv

Column	Description
`show_id`	The ID of the show
`type`	Type of show
`title`	Title of the show
`director`	Director of the show
`cast`	Cast of the show
`country`	Country of origin
`date_added`	Date added to Netflix
`release_year`	Year of Netflix release
`duration`	Duration of the show in minutes
`description`	Description of the show
`genre`	Show genre

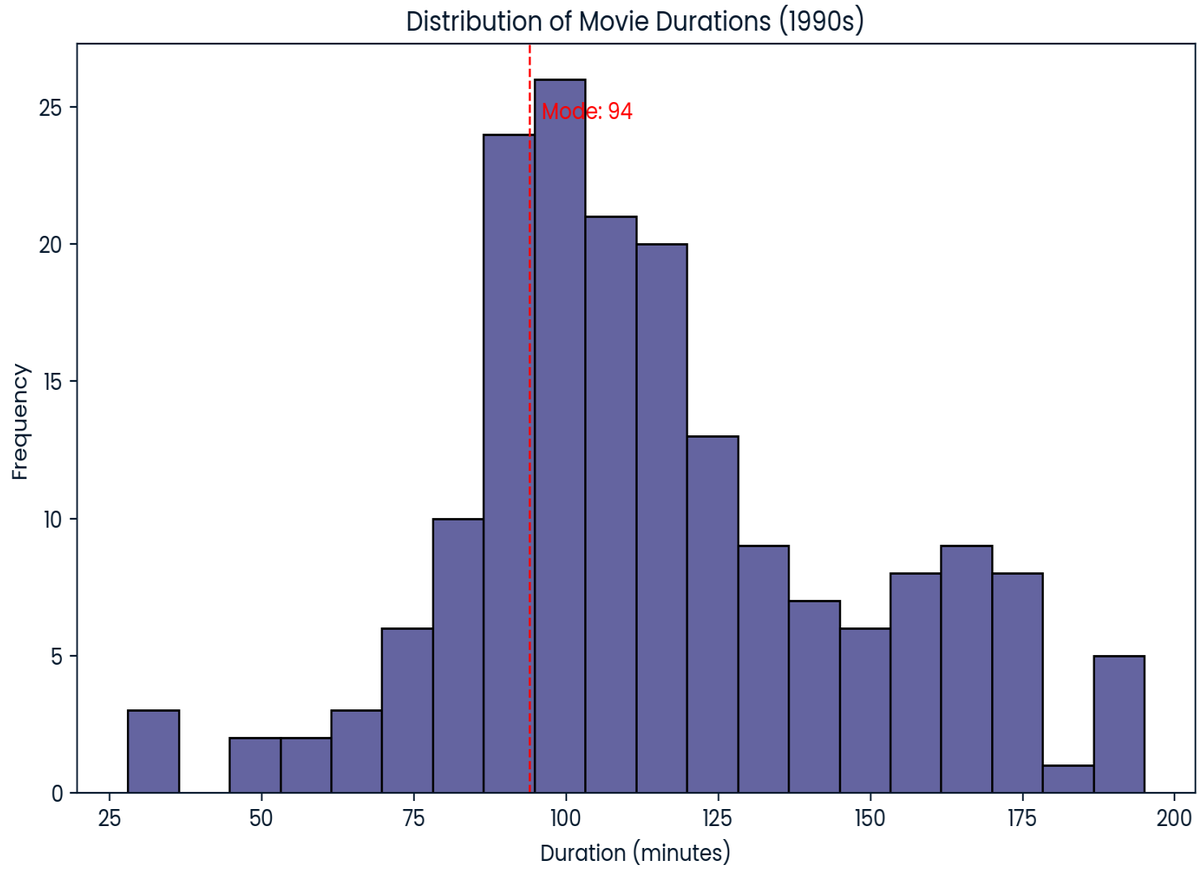
```
# Importing pandas and matplotlib
import pandas as pd
import matplotlib.pyplot as plt

# Read in the Netflix CSV as a DataFrame
netflix_df = pd.read_csv("netflix_data.csv")
```

```
# Subset the DataFrame to keep only the movies
movies_df = netflix_df[netflix_df["type"] == "Movie"]
```

```
# Filter the DataFrame for movies released between 1990 and 1999
duration = movies_df[(movies_df["release_year"] >= 1990) & (movies_df["release_year"] <= 1999)]

# Display the first few rows of the filtered DataFrame
duration.head()
```

	show_id	type	title	director	cast	country	date_added	release_year	duration	description	genre
6	s8	Movie	187	Kevin Reynolds	Samuel L. Jackson, John Heard, Kelly Rowan, Cl...	United States	November 1, 2019	1997	119	After one of his high school students attacks ...	Dramas
118	s167	Movie	A Dangerous Woman	Stephen Gyllenhaal	Debra Winger, Barbara Hershey, Gabriel Byrne, ...	United States	April 1, 2018	1993	101	At the center of this engrossing melodrama is ...	Dramas
145	s211	Movie	A Night at the Roxbury	John Fortenberry	Will Ferrell, Chris Kattan, Dan Hedaya, Molly ...	United States	December 1, 2019	1998	82	After a run-in with Richard Grieco, dimwits Do...	Comedies
			A Thin Line Between Love		Martin Lawrence, Lynn Whitfield,	United	December 1,			When a philandering club promoter	

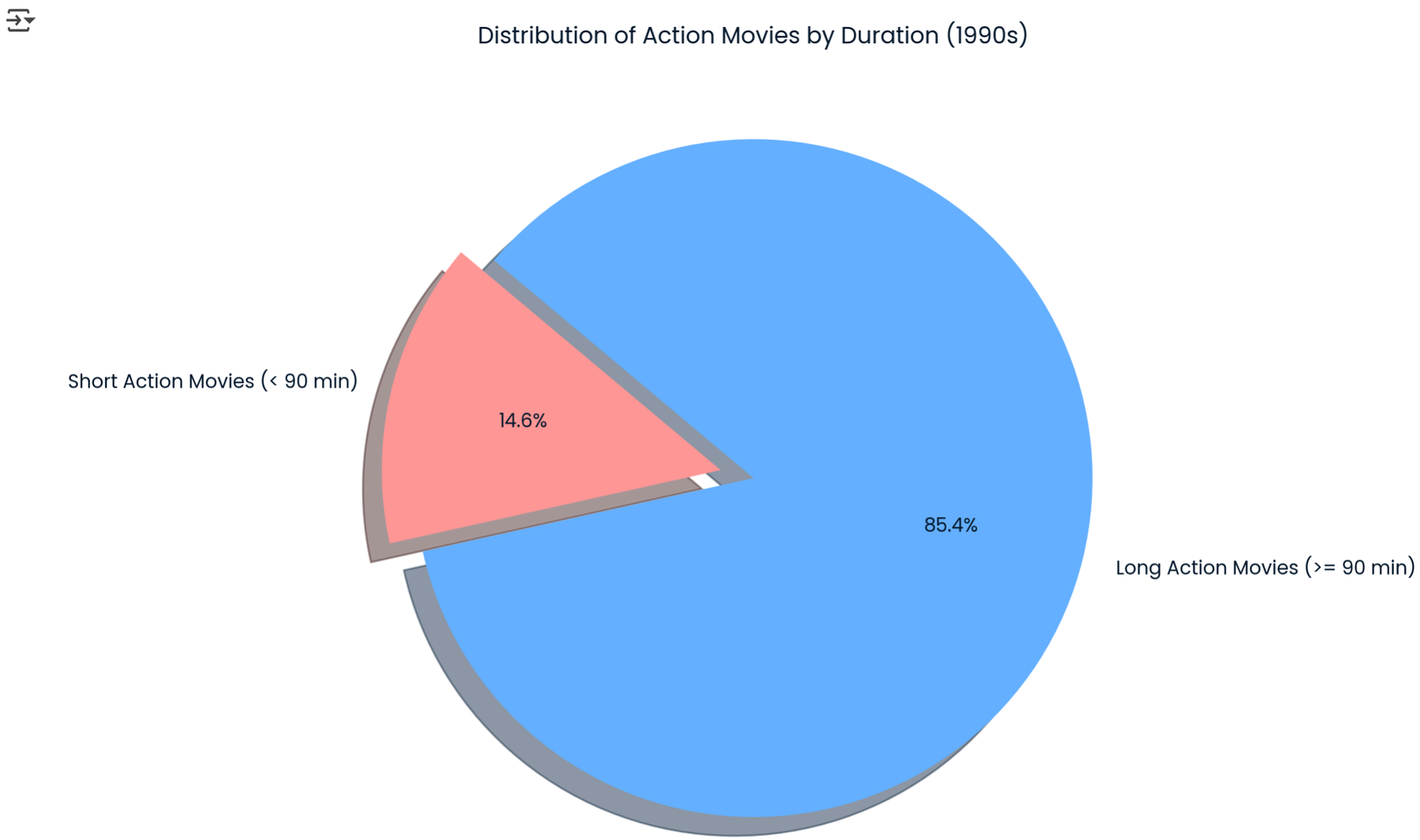
```
# Find the most frequent movie duration
most_frequent_duration = duration["duration"].mode()[0]

# Visualize the distribution of durations for movies released in the 1990s
plt.figure(figsize=(10, 6))
plt.hist(duration["duration"], bins=20, edgecolor='black')
plt.title("Distribution of Movie Durations (1990s)")
plt.xlabel("Duration (minutes)")
plt.ylabel("Frequency")
plt.axvline(most_frequent_duration, color='r', linestyle='dashed', linewidth=1)
plt.text(most_frequent_duration + 2, plt.ylim()[1] * 0.9, f'Mode: {most_frequent_duration}', color='r')
plt.figtext(0.5, -0.1, "This histogram shows the distribution of movie durations for films released in the 1990s. The red dashed line indicates the most frequent duration.", wrap=True, horizon
plt.show()
```



This histogram shows the distribution of movie durations for films released in the 1990s. The red dashed line indicates the most frequent duration.

```
# Subset the DataFrame to keep only action movies
action_movies_90s_df = duration[duration["genre"].str.contains("Action", na=False)]

# Initialize a counter for short action movies
short_action_movies_count = 0

# Iterate through the DataFrame and count movies with duration less than 90 minutes
for index, row in action_movies_90s_df.iterrows():
    if row["duration"] < 90:
        short_action_movies_count += 1

# Calculate the number of action movies with duration 90 minutes or more
long_action_movies_count = len(action_movies_90s_df) - short_action_movies_count

# Plot a pie chart
labels = 'Short Action Movies (< 90 min)', 'Long Action Movies (>= 90 min)'
sizes = [short_action_movies_count, long_action_movies_count]
colors = ['#ff9999','#66b3ff']
explode = (0.1, 0)  # explode the 1st slice
```

```
plt.figure(figsize=(8, 8))
plt.pie(sizes, explode=explode, labels=labels, colors=colors, autopct='%1.1f%%',
        shadow=True, startangle=140)
plt.title('Distribution of Action Movies by Duration (1990s)')
plt.show()

print("short action movies =", short_action_movies_count)
print("long action movies =", long_action_movies_count)
```




```
short action movies = 7
long action movies = 41
```