
0.0.1 Question 4b

Create two line plots below. The first should show how the **average movie runtime** has changed over time; the second should show how the **average movie rating** has changed over time. The x-axis should be `startYear` for both plots. Use the columns from the table generated in the previous part, `res_q4a`.

Notes: * Please use `sns` or `plt` functions for plotting. * Please include descriptive titles and labels. * If your plot does not show up in the generated PDF, please upload a PDF with a screenshot of your code and the plot.

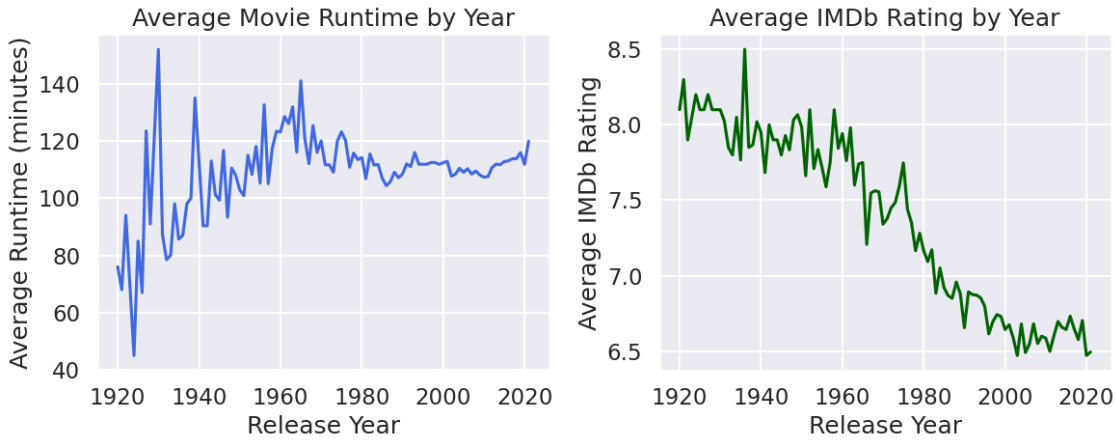
In [30]:
```
import seaborn as sns
import matplotlib.pyplot as plt

plt.figure(figsize=(12, 5))

# First subplot - Runtime
plt.subplot(1, 2, 1)  # DO NOT MODIFY THIS LINE
sns.lineplot(data=res_q4a, x='startYear', y='avgRuntime', color='royalblue')
plt.title('Average Movie Runtime by Year')
plt.xlabel('Release Year')
plt.ylabel('Average Runtime (minutes)')

# Second subplot - Rating
plt.subplot(1, 2, 2)  # DO NOT MODIFY THIS LINE
sns.lineplot(data=res_q4a, x='startYear', y='avgRating', color='darkgreen')
plt.title('Average IMDb Rating by Year')
plt.xlabel('Release Year')
plt.ylabel('Average IMDb Rating')

plt.tight_layout()
```



Write 1–2 sentences describing any trends you observe in each plot. This will be graded for completion.

The average movie runtime generally increased from the 1930s to the 1960s, then slightly declined and remained relatively stable from the 1980s onward. In contrast, the average IMDb rating has shown a clear downward trend since the 1960s, which might suggest that longer runtimes over time haven't led to higher audience ratings.