Bellevue University

Netflix Viewership Analysis

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Assignment 1.2

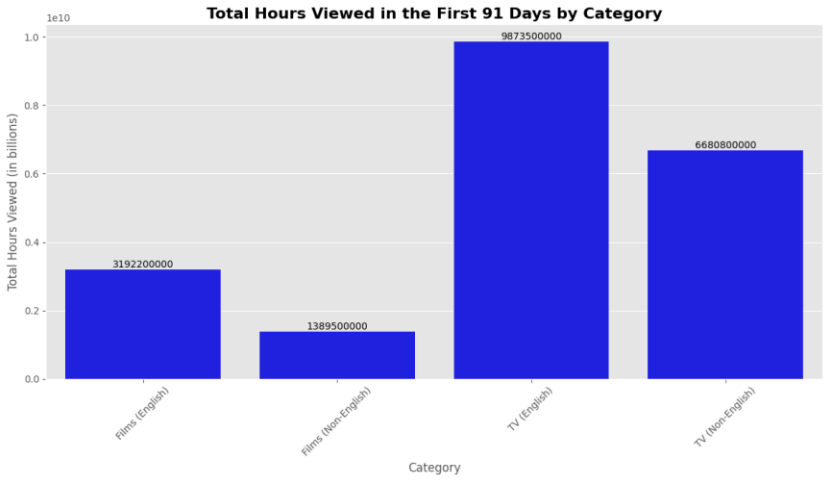
December 1st, 2024

DSC 640: Data Presentation and Visualization

Professor Williams

The analysis of Netflix's top ten viewership data aims to provide actionable recommendations to optimize content. By leveraging global and regional trends in viewership, the assignment looks to identify opportunities for targeted investments and marketing efforts. The findings are based on three datasets: Most Popular Netflix Titles, Weekly Rankings by Country, and Global Weekly Rankings. These datasets were analyzed using Python to uncover key insights and trends.

The primary audience for this analysis comprises Netflix executives and stakeholders responsible for strategic decisions regarding content production and marketing. This audience requires a clear, compelling narrative backed by visuals that connect insights to recommendations. The purpose of this analysis is to guide decision-making, with a specific call to action: allocate resources to high-performing content categories, expand globally appealing shows, and refine marketing and production strategies for maximum impact.



The medium chosen for this presentation is a PowerPoint deck featuring six annotated visuals. These visuals include bar plots that highlight total hours viewed, global weekly engagement, runtime trends, and the international reach of top shows. For instance, a bar plot showcasing total hours viewed underscored the dominance of English TV shows, while another plot revealed the international appeal of certain titles. Annotations and professional color schemes were used to tie insights to actionable recommendations. Each chart was optimized for clarity, with clean axes, labeled bars, and titles designed to convey key messages.

Design choices were deliberate. Blue, green, and purple tones were used to convey professionalism, while annotations and captions provided clarity. Text was aligned for readability, and sufficient spacing was maintained to avoid visual clutter. The sizing of elements, including fonts and bars, was optimized for presentation formats to ensure clarity and impact.

The analysis revealed several actionable insights. English TV shows dominate both total hours viewed and global weekly engagement, underscoring the need for continued investment in this category. Globally appealing shows like *The Tinder Swindler* and *Sweet Girl* highlight the importance of international marketing strategies. Non-English content demonstrates significant growth potential, suggesting an opportunity to diversify the catalog and appeal to broader audiences. Additionally, runtime optimization could balance viewer preferences and retention.

Ethical considerations were integral to the analysis. The data used was sourced directly from Netflix's publicly available datasets, ensuring credibility and compliance with privacy standards. Data cleaning and transformations were documented, and no significant exclusions were made without justification. Care was taken to avoid misleading visualizations or overgeneralizations.

The findings culminate in a clear call to action: increase investment in high-performing content categories, prioritize globally appealing shows in marketing efforts, and diversify the catalog with non-English titles to capture emerging markets. These strategies will position Netflix to enhance its global reach and sustain its dominance in the streaming industry.

Netflix Viewership Analysis

Optimizing Content Strategy by Ashley Mayo

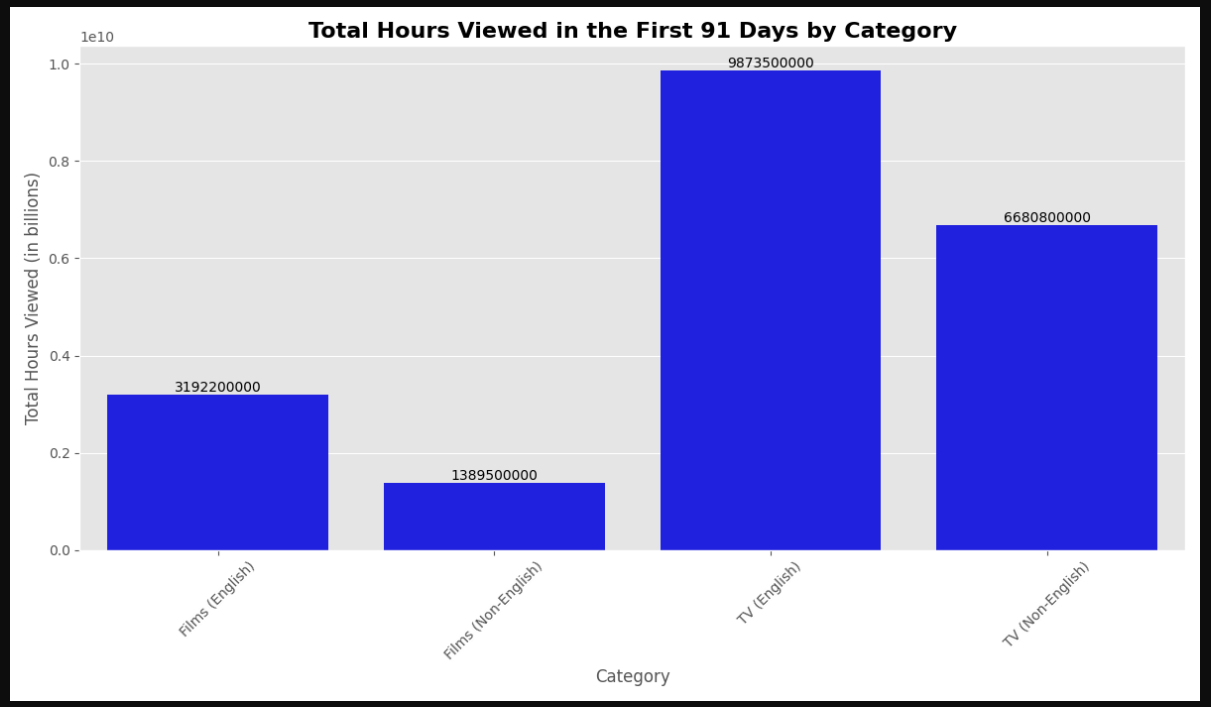
Introduction

This analysis leverages Netflix's Top 10 viewership data to uncover trends and inform strategic decisions. Using Python for data processing and visualization, actionable recommendations are provided to optimize engagement and revenue.

Total Hours Viewed by Category

English TV shows dominate in total hours viewed, showcasing their high engagement levels.

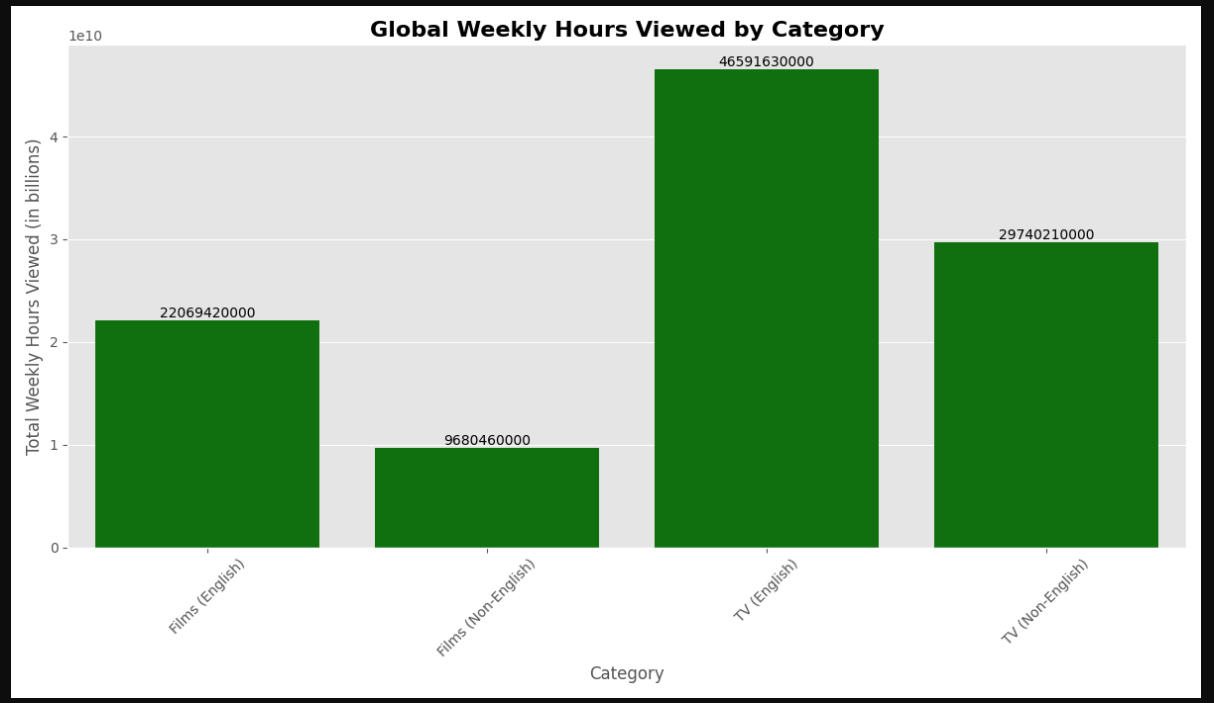
Recommendation: Invest in producing and marketing English TV shows to retain and attract subscribers.



Weekly Hours Viewed Globally by Category

English TV shows maintain high weekly engagement globally.

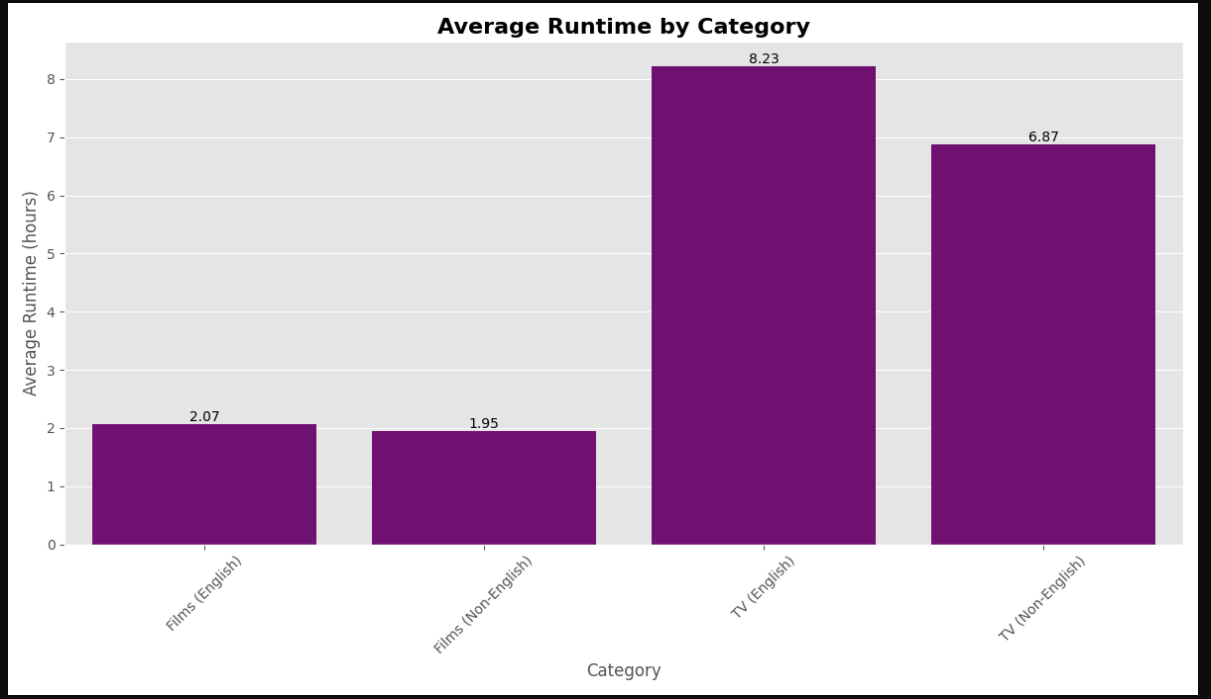
Recommendation: Develop new English TV series to sustain viewership growth.



Average Runtime by Category

Non-English TV shows have shorter runtimes, potentially catering to time-constrained viewers.

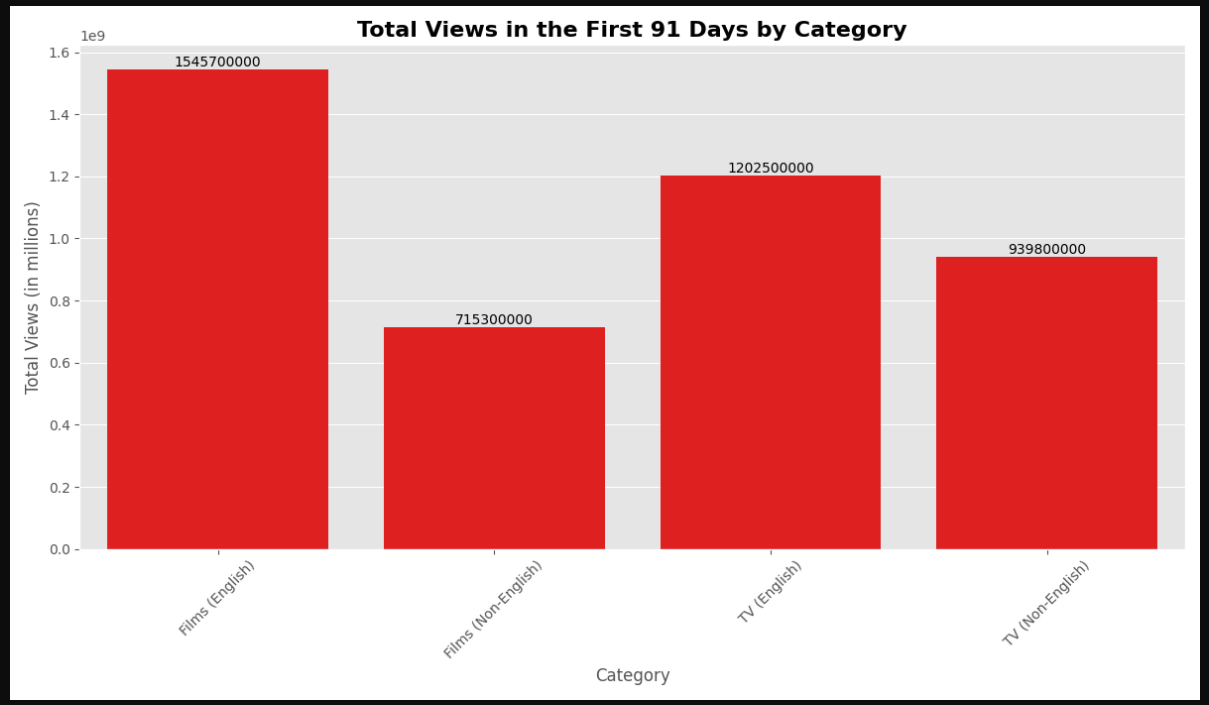
Recommendation: Optimize runtimes to balance engagement and viewer retention.



Total Views by Category

English TV shows lead in total views, reflecting their popularity.

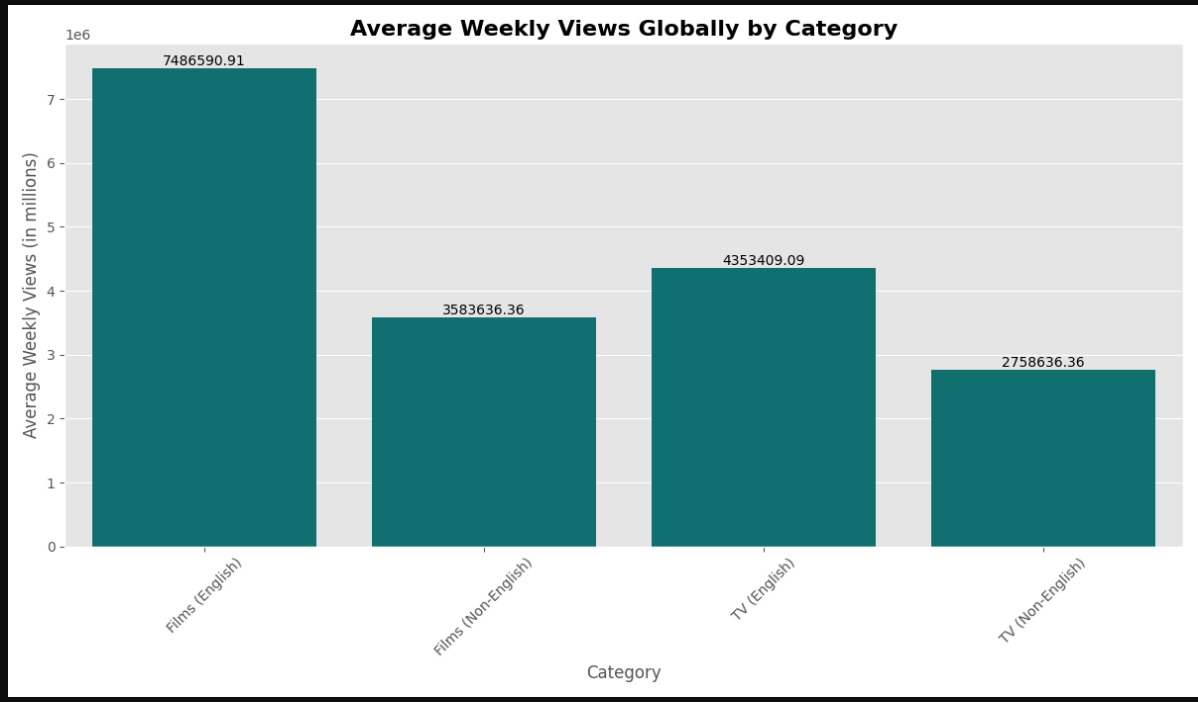
Recommendation: Focus on producing high-quality English TV content to maximize viewership.



Average Weekly Views Globally by Category

English films achieve higher weekly views.

Recommendation: Promote English films with shorter runtimes to maintain high weekly engagement.



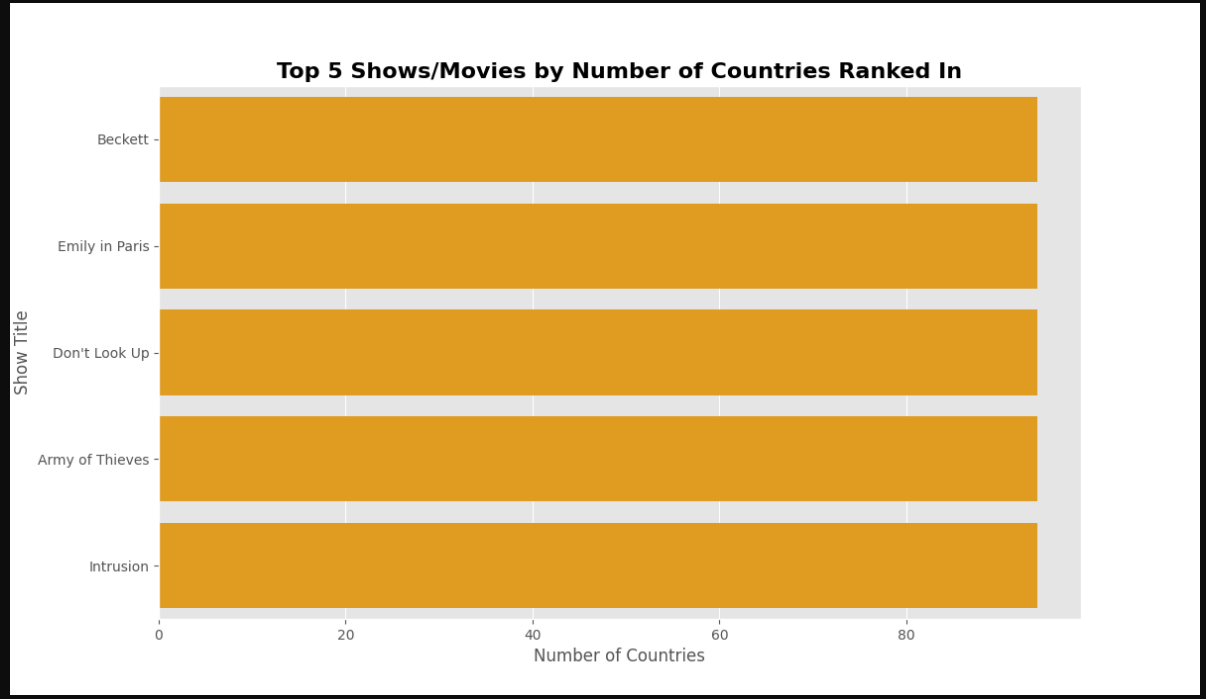
Conclusion and Call to Action

To sustain its dominance, Netflix should prioritize high-performing categories like English TV shows " "and films, expand globally appealing content, and diversify into non-English titles. " "These strategies will drive engagement, retain subscribers, and enhance revenue.""

Global Appeal of Top Shows

Shows like 'The Tinder Swindler' and 'Sweet Girl' rank highly across multiple countries, demonstrating universal appeal.

Recommendation: Expand marketing campaigns for these globally appealing shows.



```
 1 # Ashley Mayo
 2 # DSC640: Data Presentation & Visualization
 3 # Week 1 assignment
 4 # December 1st, 2024
 5
 6 # Import necessary libraries
 7 import pandas as pd
 8 import matplotlib.pyplot as plt
 9 import seaborn as sns
10
11 # Load the datasets
12 most_popular_df = pd.read_excel('C:/Users/ashle/
   OneDrive/Documents/most-popular-netflix.xlsx')
13 all_weeks_countries_df = pd.read_excel('C:/Users/
   ashle/OneDrive/Documents/all-weeks-countries-netflix.
   xlsx')
14 all_weeks_global_df = pd.read_excel('C:/Users/ashle/
   OneDrive/Documents/all-weeks-global-netflix.xlsx')
15
16 # Display the first few rows of each dataset to
   understand their structure
17 most_popular_df.head(), all_weeks_countries_df.head
   (), all_weeks_global_df.head()
18
19 # Data Exploration: Analyze the three datasets to
   identify trends
20
21 # Most popular shows/movies: Group by category to
   find total hours viewed in the first 91 days
22 popular_summary = most_popular_df.groupby('category'
   ).agg(
23     total_hours_viewed=('hours_viewed_first_91_days'
   , 'sum'),
24     average_runtime=('runtime', 'mean'),
25     total_views=('views_first_91_days', 'sum')
26 ).reset_index()
27
28 # Weekly Rankings by Country: Identify the top 5
   shows/movies by the number of countries they rank in
29 country_popularity = all_weeks_countries_df.groupby('
   show_title').agg(
```

```
30      countries_ranked_in=('country_name', 'nunique'),
31      total_weeks=('cumulative_weeks_in_top_10', 'sum')
32  ).reset_index().sort_values(by='countries_ranked_in'
    , ascending=False).head(5)
33
34  # Weekly Rankings Globally: Aggregate global weekly
    hours viewed and average views
35  global_trends = all_weeks_global_df.groupby('category
    ').agg(
36      total_weekly_hours=('weekly_hours_viewed', 'sum'
    ),
37      average_views=('weekly_views', 'mean')
38  ).reset_index()
39
40
41  # Creating a story: Generate insights and
    visualizations
42  # Set a consistent theme for the visuals
43  plt.style.use('ggplot')
44
45  # Visualization 1: Total hours viewed in the first 91
     days by category
46  plt.figure(figsize=(12, 7))
47  sns.barplot(x='category', y='total_hours_viewed',
    data=popular_summary, color='blue')
48  plt.title('Total Hours Viewed in the First 91 Days by
     Category', fontsize=16, weight='bold')
49  plt.xlabel('Category', fontsize=12)
50  plt.ylabel('Total Hours Viewed (in billions)',
    fontsize=12)
51  plt.xticks(rotation=45, fontsize=10)
52  for index, row in popular_summary.iterrows():
53      plt.text(index, row['total_hours_viewed'], f"{row
    ['total_hours_viewed']:.0f}", ha='center', va='bottom
    ')
54  plt.tight_layout()
55  plt.savefig('total_hours_viewed.png')
56  plt.show()
57
58  # Visualization 2: Top 5 shows/movies by number of
    countries ranked in
```

```
plt.figure(figsize=(12, 7))
sns.barplot(x='countries_ranked_in', y='show_title', data=country_popularity, color='orange')
plt.title('Top 5 Shows/Movies by Number of Countries Ranked In', fontsize=16, weight='bold')
plt.xlabel('Number of Countries', fontsize=12)
plt.ylabel('Show Title', fontsize=12)
for index, row in country_popularity.iterrows():
    plt.text(row['countries_ranked_in'], index, f"{row['countries_ranked_in']}", ha='left', va='center')
plt.tight_layout()
plt.savefig('countries_ranked_in.png')
plt.show()

# Visualization 3: Global weekly hours viewed by category
plt.figure(figsize=(12, 7))
sns.barplot(x='category', y='total_weekly_hours', data=global_trends, color='green')
plt.title('Global Weekly Hours Viewed by Category', fontsize=16, weight='bold')
plt.xlabel('Category', fontsize=12)
plt.ylabel('Total Weekly Hours Viewed (in billions)', fontsize=12)
plt.xticks(rotation=45, fontsize=10)
for index, row in global_trends.iterrows():
    plt.text(index, row['total_weekly_hours'], f"{row['total_weekly_hours']:.0f}", ha='center', va='bottom')
plt.tight_layout()
plt.savefig('global_weekly_hours.png')
plt.show()

# Visualization 4: Average runtime by category
plt.figure(figsize=(12, 7))
sns.barplot(x='category', y='average_runtime', data=popular_summary, color='purple')
plt.title('Average Runtime by Category', fontsize=16, weight='bold')
plt.xlabel('Category', fontsize=12)
plt.ylabel('Average Runtime (hours)', fontsize=12)
```

```
 89 plt.xticks(rotation=45, fontsize=10)
 90 for index, row in popular_summary.iterrows():
 91     plt.text(index, row['average_runtime'], f"{row['
    average_runtime']:.2f}", ha='center', va='bottom')
 92 plt.tight_layout()
 93 plt.savefig('average_runtime.png')
 94 plt.show()
 95
 96 # Visualization 5: Total views for most popular
    categories
 97 plt.figure(figsize=(12, 7))
 98 sns.barplot(x='category', y='total_views', data=
    popular_summary, color='red')
 99 plt.title('Total Views in the First 91 Days by
    Category', fontsize=16, weight='bold')
100 plt.xlabel('Category', fontsize=12)
101 plt.ylabel('Total Views (in millions)', fontsize=12)
102 plt.xticks(rotation=45, fontsize=10)
103 for index, row in popular_summary.iterrows():
104     plt.text(index, row['total_views'], f"{row['
    total_views']:.0f}", ha='center', va='bottom')
105 plt.tight_layout()
106 plt.savefig('total_views.png')
107 plt.show()
108
109 # Visualization 6: Weekly views globally by category
110 plt.figure(figsize=(12, 7))
111 sns.barplot(x='category', y='average_views', data=
    global_trends, color='teal')
112 plt.title('Average Weekly Views Globally by Category
    ', fontsize=16, weight='bold')
113 plt.xlabel('Category', fontsize=12)
114 plt.ylabel('Average Weekly Views (in millions)',
    fontsize=12)
115 plt.xticks(rotation=45, fontsize=10)
116 for index, row in global_trends.iterrows():
117     plt.text(index, row['average_views'], f"{row['
    average_views']:.2f}", ha='center', va='bottom')
118 plt.tight_layout()
119 plt.savefig('average_weekly_views.png')
120 plt.show()
```