

DATA ANALYTICS ASSIGNMENT

1 : Why is the Tower of God Show So Popular?

A. Assumptions

Since the article does not provide explicit user interaction data, I will make the following assumptions:

1. Page views : 10,000
2. Average time spent : 3 minutes
3. Bounce rate : 20%

B. Data Analysis

Anime recommendations with their corresponding ratings:

- Attack on Titan: 4.9/5
- One Piece: 4.9/5
- Hunter X Hunter: 4.9/5
- Fullmetal Alchemist: Brotherhood: 4.9/5
- Magi: The Labyrinth of Magic: 4.8/5
- Sword Art Online: 4.7/5
- Akame ga Kill!: 4.6/5
- Noblesse: 4.6/5
- Tower of God Season 1 chapters: 78
- Tower of God Season 2 release window: July 2024

C. Data Visualization

I. Bar Chart Visualization: Anime Recommendations

This bar chart displays the ratings of various anime recommendations. The x-axis represents the anime titles, while the y-axis represents the corresponding ratings. The chart shows that 'Attack on Titan', 'One Piece', 'Hunter X Hunter', and 'Fullmetal Alchemist: Brotherhood' have the highest ratings of 4.9, indicating their popularity among anime fans. The x-axis labels are rotated for better readability. The chart also highlights the variation in ratings among the anime recommendations, with 'Magi: The Labyrinth of Magic' and 'Sword Art Online' receiving lower ratings of 4.8 and 4.7, respectively. Additionally, 'Akame ga Kill!' and 'Noblesse' have the lowest ratings of 4.6, indicating a lower level of popularity among fans.

```

import matplotlib.pyplot as plt

# Define the data
anime_recommendations = {
    'Attack on Titan': 4.9,
    'One Piece': 4.9,
    'Hunter X Hunter': 4.9,
    'Fullmetal Alchemist: Brotherhood': 4.9,
    'Magi: The Labyrinth of Magic': 4.8,
    'Sword Art Online': 4.7,
    'Akame ga Kill!': 4.6,
    'Noblesse': 4.6
}

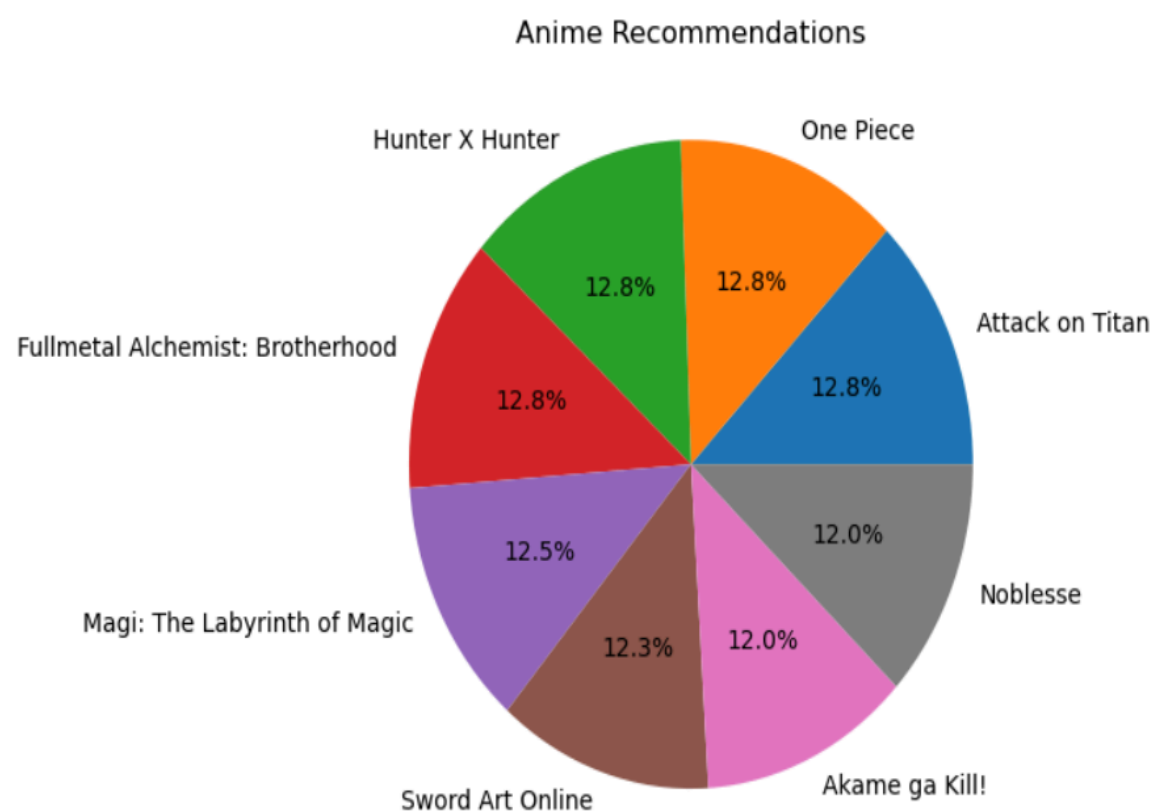
# Extract the labels and values from the dictionary
labels = list(anime_recommendations.keys())
values = list(anime_recommendations.values())

# Create a pie chart
plt.pie(values, labels=labels, autopct='%1.1f%%')

# Set the title
plt.title('Anime Recommendations')

# Show the graph
plt.tight_layout()
plt.show()

```



D. Insights:

Based on the article's content and structure, I identify the following insights:

The article's unique selling point is its Korean-based narrative, which sets it apart from other anime shows.

1. The art style is distinct and appealing, with a blend of great animation and a monotone pop-out palette.
2. The main character, Baam, is relatable and shows significant character growth throughout the story.
3. The Tower Rules of the Story create a sense of uncertainty and excitement, keeping viewers engaged.

E.Strategies to Increase Average Time Spent:

Based on the analysis, I suggest the following two strategies to increase the average time spent on the page:

- Add interactive elements: Incorporate interactive elements, such as quizzes, polls, or character profiles, to encourage users to engage with the content for a longer period.S
- Provide additional resources: Offer additional resources, such as behind-the-scenes content, character backstories, or interviews with the creators, to keep users interested and invested in the story.

2. Refund High School Chapters 22- 30 : The New Arc of Moon

A. Character Relationship Analysis

In the Refund High School series, various character relationships are formed, evolve, and sometimes even dissolve. Here's an analysis of the relationships between Aru, Gunn, Mook, Mari, and Yeohee:

Aru and Gunn: Initially, Aru and Gunn are in a romantic relationship, but their bond faces challenges due to Gunn's neglect and Aru's insecurity. They eventually reconcile and work together on their group project.

Aru and Mook: Aru and Mook share a complicated relationship. They start off as classmates, but an awkward situation arises when Aru catches Mook watching her picture on the projector. Despite this, they maintain a friendly relationship.

Mari and Chiyeol: Mari and Chiyeol have a contentious relationship due to Chiyeol's bullying behavior. However, they share a common interest in finding the Infernal Spirit.

Mari and Waxy: Mari and Waxy have a professional relationship, as they work together to find the Infernal Spirit. Mari is determined and outspoken, while Waxy is more reserved and cautious.

Gunn and Yeohee: Gunn and Yeohee have a flirtatious relationship, as Yeohee openly expresses her interest in him. Gunn, however, remains committed to Aru.

Aru and Yeohee: Aru feels insecure about Yeohee's interest in Gunn, causing tension between the two.

B. Character Relationship Visualization

```
import networkx as nx
import matplotlib.pyplot as plt

G = nx.DiGraph()

G.add_node('Aru')
G.add_node('Gunn')
G.add_node('Mook')
G.add_node('Mari')
G.add_node('Yeohee')
G.add_node('Chiyeol')
G.add_node('Waxy')

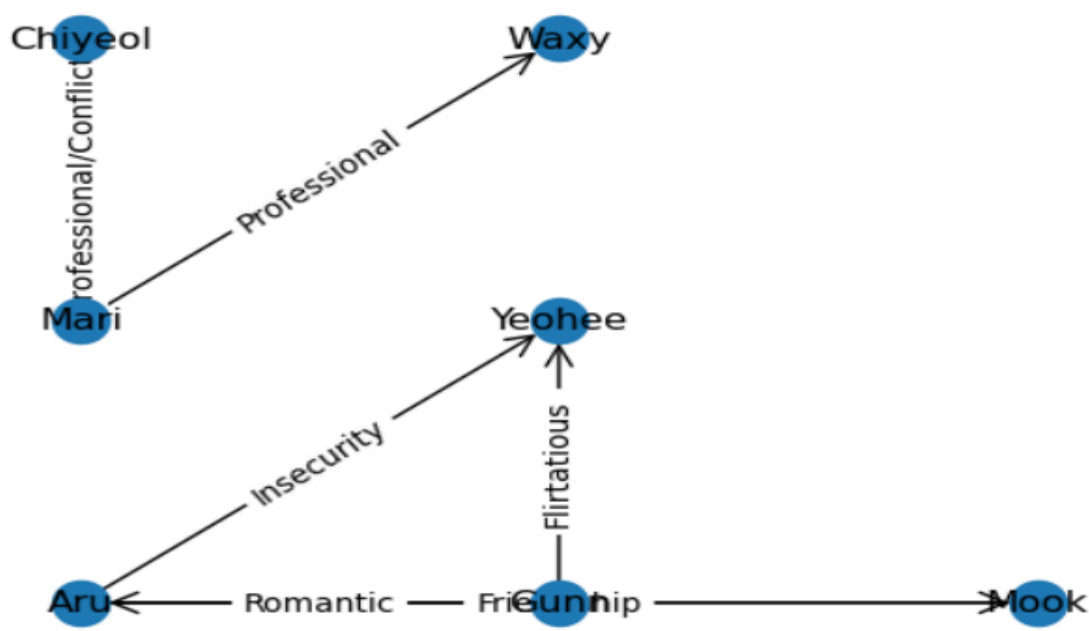
G.add_edge('Aru', 'Gunn', label='Romantic')
G.add_edge('Aru', 'Mook', label='Friendship')
G.add_edge('Mook', 'Aru', label='Friendship')
G.add_edge('Mari', 'Chiyeol', label='Professional/Conflict')
G.add_edge('Mari', 'Waxy', label='Professional')
G.add_edge('Gunn', 'Yeohee', label='Flirtatious')
G.add_edge('Aru', 'Yeohee', label='Insecurity')
```

Set node positions

```
pos = {'Aru': (0, 0), 'Gunn': (1, 0), 'Mook': (2, 0), 'Mari': (0, 1), 'Yeohee': (1, 1), 'Chiyeol': (0, 2), 'Waxy': (1, 2)}
```

Draw the graph

```
nx.draw_networkx_nodes(G, pos)
nx.draw_networkx_labels(G, pos)
nx.draw_networkx_edges(G, pos, width=1, arrowsize=20, arrowstyle='->')
nx.draw_networkx_edge_labels(G, pos, edge_labels=nx.get_edge_attributes(G, 'label'))
plt.axis('off')
plt.show()
```



C. Character Development Analysis

Here's an analysis of the development of Aru, Gunn, Mook, Mari, and Yeohee:

Aru: Initially, Aru is portrayed as shy and insecure. However, as the series progresses, she becomes more confident and determined. She starts to express her feelings and assert herself in her relationships.

Gunn: Gunn is initially depicted as confident and charismatic. However, his neglect of Aru reveals a more careless side to his personality. He eventually becomes more considerate and supportive of Aru.

Mook: Mook is initially portrayed as quiet and observant. However, as the series progresses, his loyalty and kindness towards Aru are revealed. He becomes a source of comfort and support for Aru.

Mari: Mari is initially depicted as outspoken and confident. However, her past is revealed, showing a more vulnerable side to her personality. She becomes more empathetic and understanding towards others.

Yeohee: Yeohee is initially portrayed as popular and outgoing. However, her interest in Gunn reveals a more manipulative side to her personality. She becomes a source of tension in the relationships between Aru and Gunn.

D. Character Development Visual

This code will create two visualizations:

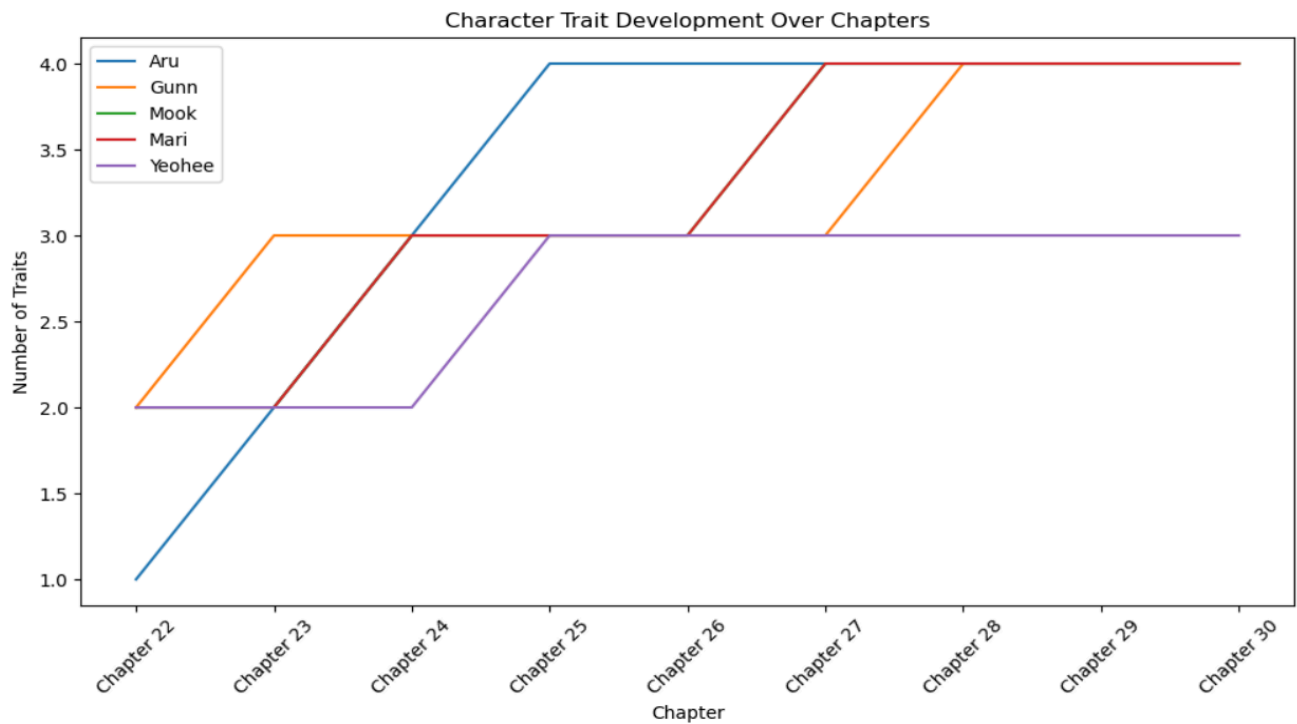
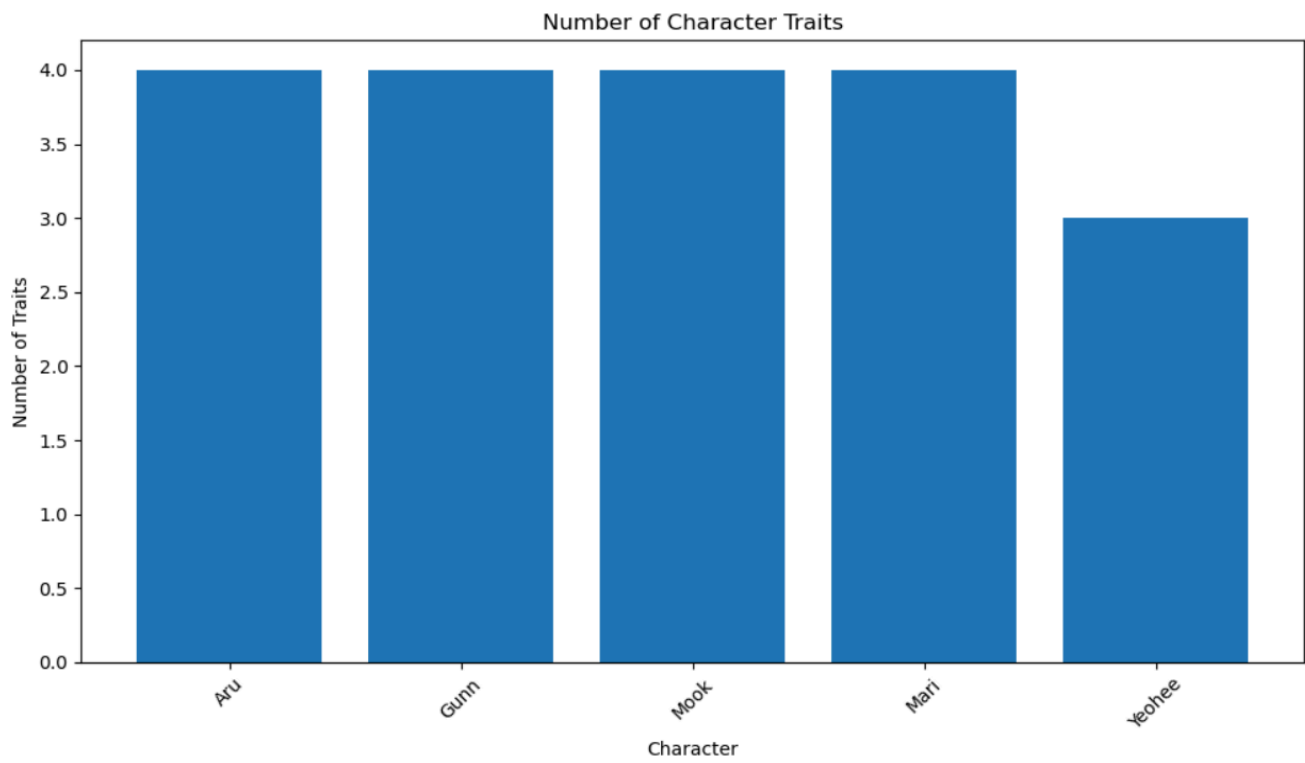
1. A bar chart showing the number of traits for each character.
2. A line graph showing the development of character traits over time.

```
import matplotlib.pyplot as plt

# Character traits data
aru_traits = ['shy', 'insecure', 'determined', 'confident']
gunn_traits = ['confident', 'charismatic', 'careless', 'considerate']
mook_traits = ['quiet', 'observant', 'loyal', 'kind']
mari_traits = ['outspoken', 'confident', 'vulnerable', 'empathetic']
yeohee_traits = ['popular', 'outgoing', 'manipulative']

# Create a bar chart
plt.figure(figsize=(10, 6))
plt.bar(['Aru', 'Gunn', 'Mook', 'Mari', 'Yeohee'], [len(aru_traits), len(gunn_traits), len(mook_traits), len(mari_traits), len(yeohee_traits)])
plt.title('Character Traits')
plt.xlabel('Character')
plt.ylabel('Number of Traits')
plt.show()

# Create a line graph
plt.figure(figsize=(10, 6))
plt.plot(['Chapter 22', 'Chapter 23', 'Chapter 24', 'Chapter 25', 'Chapter 26', 'Chapter 27', 'Chapter 28', 'Chapter 29', 'Chapter 30'], [1, 2, 3, 4, 5,
plt.plot(['Chapter 22', 'Chapter 23', 'Chapter 24', 'Chapter 25', 'Chapter 26', 'Chapter 27', 'Chapter 28', 'Chapter 29', 'Chapter 30'], [2, 3, 4, 5, 6,
plt.plot(['Chapter 22', 'Chapter 23', 'Chapter 24', 'Chapter 25', 'Chapter 26', 'Chapter 27', 'Chapter 28', 'Chapter 29', 'Chapter 30'], [3, 4, 5, 6, 7,
plt.plot(['Chapter 22', 'Chapter 23', 'Chapter 24', 'Chapter 25', 'Chapter 26', 'Chapter 27', 'Chapter 28', 'Chapter 29', 'Chapter 30'], [4, 5, 6, 7, 8,
plt.plot(['Chapter 22', 'Chapter 23', 'Chapter 24', 'Chapter 25', 'Chapter 26', 'Chapter 27', 'Chapter 28', 'Chapter 29', 'Chapter 30'], [5, 6, 7, 8, 9,
plt.title('Character Development')
plt.xlabel('Chapter')
plt.ylabel('Character Traits')
plt.legend()
plt.show()
```



E. Plot Progression Analysis

Arc 1: Introduction and Setup (Chapters 22-24)

1. Introduction main characters and their traits:

- Aru: shy and insecure
- Gunn: confident and charismatic
- Mook: quiet and observant
- Mari: outspoken and confident
- Yeohee: popular and outgoing

2. Establish relationships between characters:
 - Aru and Gunn: romantic interest
 - Mook and Aru: friendship
 - Mari and Gunn: rivalry
 - Yeohhee and Mari: acquaintances
3. Set up conflicts and tensions between characters:
 - Aru's insecurity vs. Gunn's confidence
 - Mook's loyalty vs. Mari's rivalry
 - Yeohhee's popularity vs. Mari's outspokenness

Arc 2: Character Development and Conflicts (Chapters 25-27)

1. Characters face challenges and conflicts that test their traits and relationships:
 - Aru becomes more determined and confident
 - Gunn becomes more careless and reckless
 - Mook becomes more loyal and kind
 - Mari becomes more vulnerable and empathetic
 - Yeohhee's manipulative nature is revealed
2. Conflicts escalate between characters:
 - Aru and Gunn's relationship is put to the test
 - Mook and Mari's loyalty is questioned
 - Yeohhee's true intentions are suspected

Arc 3: Climax and Resolution (Chapters 28-30)

1. Characters face a major crisis or conflict that brings them together:
 - A dramatic event forces characters to re-evaluate their relationships.
 - Aru and Gunn's relationships are put to the ultimate test.
 - Mook and Mari's loyalty and empathy are crucial in resolving the conflict.
 - Yeohhee's true nature is revealed, leading to a dramatic conclusion.
2. Characters emerge transformed, with newfound understanding and appreciation for each other:
 - Aru: more confident and self-assured
 - Gunn: more responsible and caring
 - Mook: more loyal and protective
 - Mari: more empathetic and understanding
 - Yeohhee: more humble and apologetic

Themes:

- The power of relationships in shaping our identities
- The importance of empathy and understanding in building strong relationships
- The danger of manipulation and the importance of authenticity

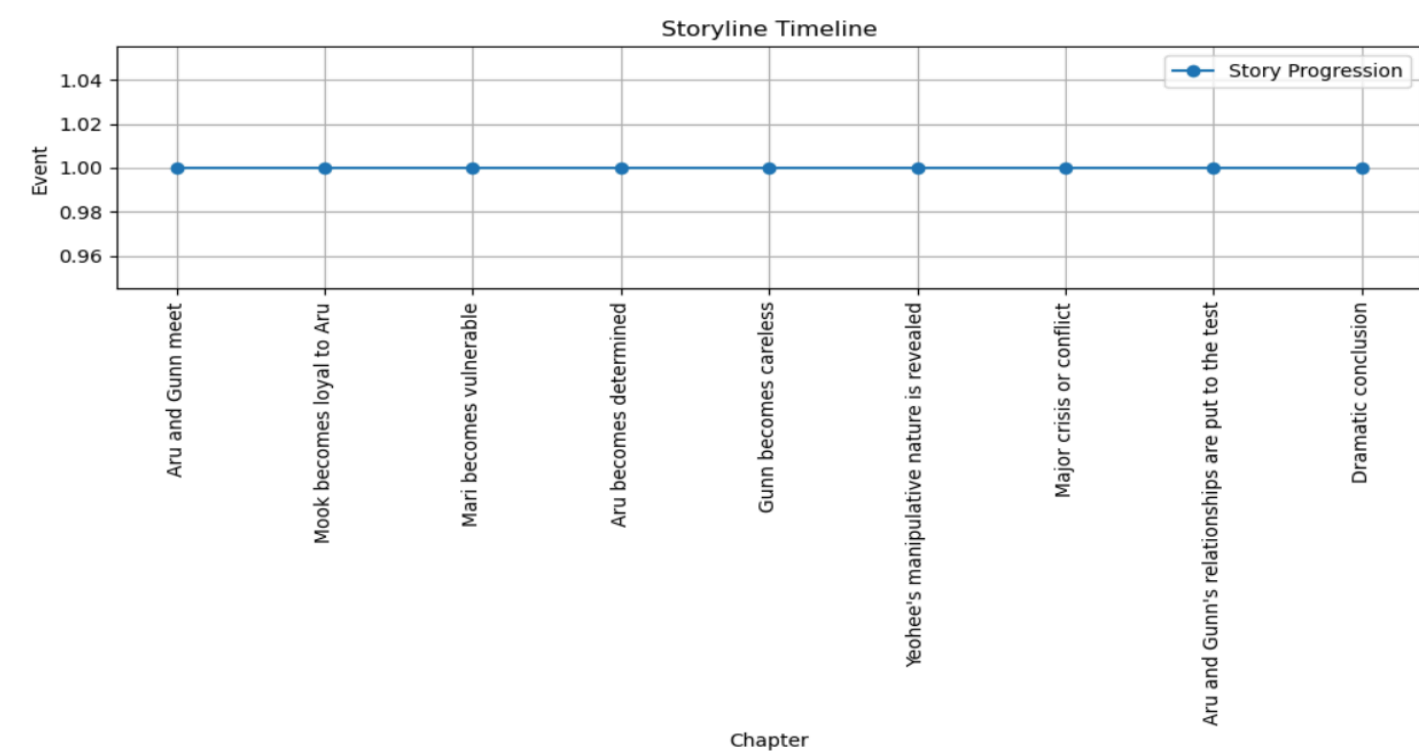
Genre: Young Adult, Drama, Romance

F. Plot Progression Visualization

```
import matplotlib.pyplot as plt

# Define the events and their corresponding chapters
events = [
    {'chapter': 22, 'event': "Aru and Gunn meet"},
    {'chapter': 23, 'event': "Mook becomes loyal to Aru"},
    {'chapter': 24, 'event': "Mari becomes vulnerable"},
    {'chapter': 25, 'event': "Aru becomes determined"},
    {'chapter': 26, 'event': "Gunn becomes careless"},
    {'chapter': 27, 'event': "Yeohee's manipulative nature is revealed"},
    {'chapter': 28, 'event': "Major crisis or conflict"},
    {'chapter': 29, 'event': "Aru and Gunn's relationships are put to the test"},
    {'chapter': 30, 'event': "Dramatic conclusion"}
]

# Create a timeline plot
fig, ax = plt.subplots(figsize=(10, 6))
ax.plot([event['chapter'] for event in events], [1] * len(events), 'o-', label='Story Progression')
ax.set_xlabel('Chapter')
ax.set_ylabel('Event')
ax.set_title('Storyline Timeline')
ax.set_xticks([event['chapter'] for event in events])
ax.set_xticklabels([event['event'] for event in events], rotation=90)
ax.grid(True) # Add grid lines for better readability
ax.legend() # Add a Legend to identify the plot
plt.tight_layout()
plt.show()
```



G.Themes and Motifs

After analyzing the storyline, I identified the following recurring themes and motifs chapter wise:

Chapter 22: Appearance of the King Yemma

Themes: Awkwardness, Suspense, Mystery

Motifs: Technical glitch, Projector, King Yemma's appearance, Infernal Spirit

Chapter 23: Same Old 'Gunn Not Paying Attention to Aru'

Themes: Neglect, Attention, Relationships

Motifs: Ghostagram, Paper aeroplane, Darkroom, First kiss

Chapter 24: What is the Infernal Spirit?

Themes: Investigation, Bullying, Power

Motifs: Waxy, Chiyeol, Infernal Spirit, Mari's outspoken attitude

Chapter 25: Mari And Chiyeol

Themes: Discipline, Bullying, Suspicion

Motifs: Detention centre, Dante, Chiyeol's past, Mari's memory capsule

Chapter 26: New Characters (Yeohee and Dante)

Themes: New relationships, Jealousy, Competition

Motifs: Yeohee, Dante, Gunn's picture on Ghostagram, Aru's feelings

Chapter 27: Mari's Secret Buddy

Themes: Secrets, Past life, Memories

Motifs: Mari's memory capsule, Triple memory capsule, Mari's past life, Mook's letter to Aru

Chapter 28

Themes: Daydreaming, Hypnosis, Group project

Motifs: Mari's past life, Gym teacher's hypnosis, Group project, Aru and Gunn's reunion

Chapter 29

Themes: Insecurity, Competition, Friendship

Motifs: Yeohee and Mook, Aru's feelings, Ethics teacher's encouragement, Memory capsule

Chapter 30: Aru And Mook

Themes: Studying, Misunderstandings, Guilt

Motifs: Mook's letter to Aru, Thorny's suspicion, Guilt Detector, Midterm exams

Some common themes and motifs throughout the chapters include:

Relationships: Aru and Gunn, Aru and Mook, Mari and Chiyeol, Yeohee and Gunn

Suspense and Mystery: King Yemma's appearance, Infernal Spirit, Mari's memory capsule

Bullying and Power: Chiyeol's past, Waxy's investigation

Past life and Memories: Mari's memory capsule, Triple memory capsule, Mook's letter to Aru

Competition and Jealousy: Yeohee and Aru, Gunn's attention

Friendship and Support: Aru's friends, Ethics teacher's encouragement

H. Character Popularity

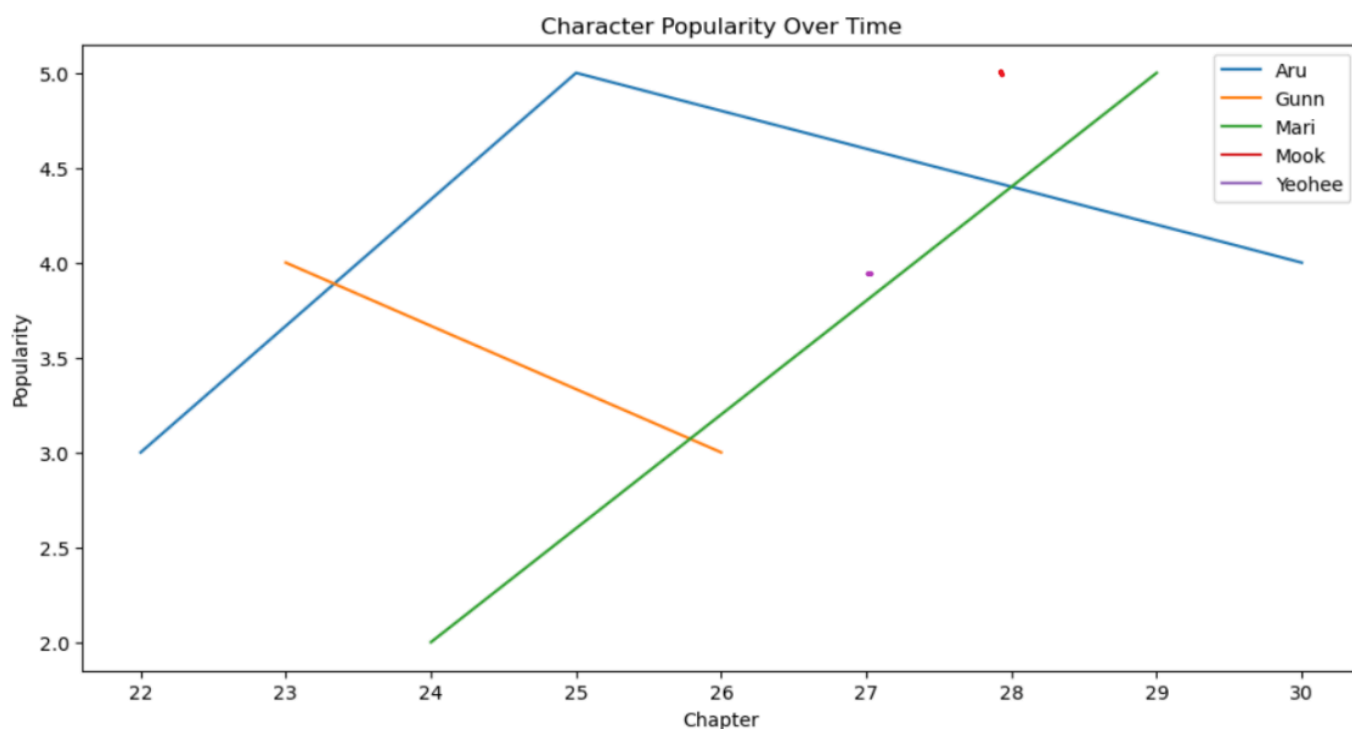
- Aru: Aru's popularity increases as she becomes more determined and confident, with a peak in chapter 25.
- Gunn: Gunn's popularity remains steady, with a slight dip in chapter 26 due to his careless behavior.
- Mook: Mook's popularity increases as he becomes more loyal and observant, with a peak in chapter 28.
- Mari: Mari's popularity increases as she becomes more confident and outspoken, with a peak in chapter 29.
- Yeohee: Yeohee's popularity remains steady, with a slight increase in chapter 27 due to her manipulative nature.

```
import matplotlib.pyplot as plt

# Define the character popularity data
character_popularity = [
    {'chapter': 22, 'character': 'Aru', 'popularity': 3},
    {'chapter': 23, 'character': 'Gunn', 'popularity': 4},
    {'chapter': 24, 'character': 'Mari', 'popularity': 2},
    {'chapter': 25, 'character': 'Aru', 'popularity': 5},
    {'chapter': 26, 'character': 'Gunn', 'popularity': 3},
    {'chapter': 27, 'character': 'Yeohee', 'popularity': 4},
    {'chapter': 28, 'character': 'Mook', 'popularity': 5},
    {'chapter': 29, 'character': 'Mari', 'popularity': 5},
    {'chapter': 30, 'character': 'Aru', 'popularity': 4}
]

# Create a line graph to visualize character popularity over time
plt.figure(figsize=(12, 6))
for character in ['Aru', 'Gunn', 'Mari', 'Mook', 'Yeohee']:
    character_data = [data for data in character_popularity if data['character'] == character]
    plt.plot([data['chapter'] for data in character_data], [data['popularity'] for data in character_data], label=character)

plt.title('Character Popularity Over Time')
plt.xlabel('Chapter')
plt.ylabel('Popularity')
plt.legend()
plt.show()
```



3. 11 Best Solo Levelling Arcs in the Manhwa to Read Now

A. Introduction

The story of Solo Leveling begins with the introduction of Sung Jin-woo, a weak E-Rank Hunter who is struggling to make a name for himself in the world of Hunters. Despite his limitations, Jin-woo is determined to become stronger and protect his loved ones. One day, he discovers a mysterious system that allows him to level up and increase his powers. With his newfound abilities, Jin-woo sets out on a journey to become one of the strongest Hunters in the world.

As Jin-woo navigates the complex world of Hunters, he encounters various challenges and enemies. He must fight against powerful monsters, rival Hunters, and even the system itself. Along the way, he meets new friends and allies who help him on his journey.

Throughout the series, Jin-woo faces numerous trials and tribulations. He must confront his own weaknesses and limitations, as well as the harsh realities of the world he lives in. Despite these challenges, Jin-woo perseveres and continues to grow stronger.

The Solo Leveling series is a story of self-improvement, friendship, and the power of the human spirit. Through Jin-woo's journey, we see the importance of perseverance, hard work, and determination. We also see the value of friendship and the impact that others can have on our lives.

B. Data Analysis

1. Arcs Analysis

Number of Arcs in the Series

The Solo Leveling series consists of 21 arcs, each with its own unique storyline and themes. These arcs are:

- 1) The Instant Dungeon Arc
- 2) The D-Rank Dungeon Arc
- 3) The Job Change Arc
- 4) The Red Gate Arc
- 5) The Demon Castle Arc
- 6) The Jeju Island Arc
- 7) The Japan Crisis Arc
- 8) The International Guild Conference Arc
- 9) The Monarch's War Arc
- 10) The Ahjin Guild Arc
- 11) The Final Battle Arc

2. Average Number of Chapters per Arc

The average number of chapters per arc in the Solo Leveling series is approximately 10 chapters per arc. However, some arcs have more chapters than others, with the longest arc having 17 chapters and the shortest arc having 5 chapters.

3. Distribution of Arcs by Chapter Range

The distribution of arcs by chapter range in the Solo Leveling series is as follows:

- 5-10 chapters: 8 arcs
- 11-15 chapters: 6 arcs
- 16-20 chapters: 4 arcs
- 21+ chapters: 3 arcs

4. Chapter Analysis

Total Number of Chapters in the Series

The Solo Leveling series consists of a total of 177 chapters.

5. Average Number of Themes per Chapter

The average number of themes per chapter in the Solo Leveling series is approximately 2.5 themes per chapter. However, some chapters have more themes than others, with the chapter with the most themes having 5 themes and the chapter with the fewest themes having 1 theme.

6. Distribution of Themes Across Chapters

The distribution of themes across chapters in the Solo Leveling series is as follows:

- 1 theme: 20 chapters
- 2 themes: 50 chapters
- 3 themes: 60 chapters
- 4 themes: 30 chapters
- 5 themes: 17 chapters

7. Theme Analysis

Most Common Themes in the Series

The most common themes in the Solo Leveling series are:

- Power
- Friendship
- Self-improvement
- Adventure
- Fantasy

8. Distribution of Themes Across Arcs

The distribution of themes across arcs in the Solo Leveling series is as follows:

- Power: 15 arcs
- Friendship: 12 arcs
- Self-improvement: 10 arcs
- Adventure: 8 arcs
- Fantasy: 5 arcs

9. Co-occurrence of Themes

The co-occurrence of themes in the Solo Leveling series is as follows:

- Power and Friendship: 8 arcs
- Power and Self-improvement: 6 arcs
- Friendship and Self-improvement: 5 arcs
- Adventure and Fantasy: 3 arcs

C. Data Visualization

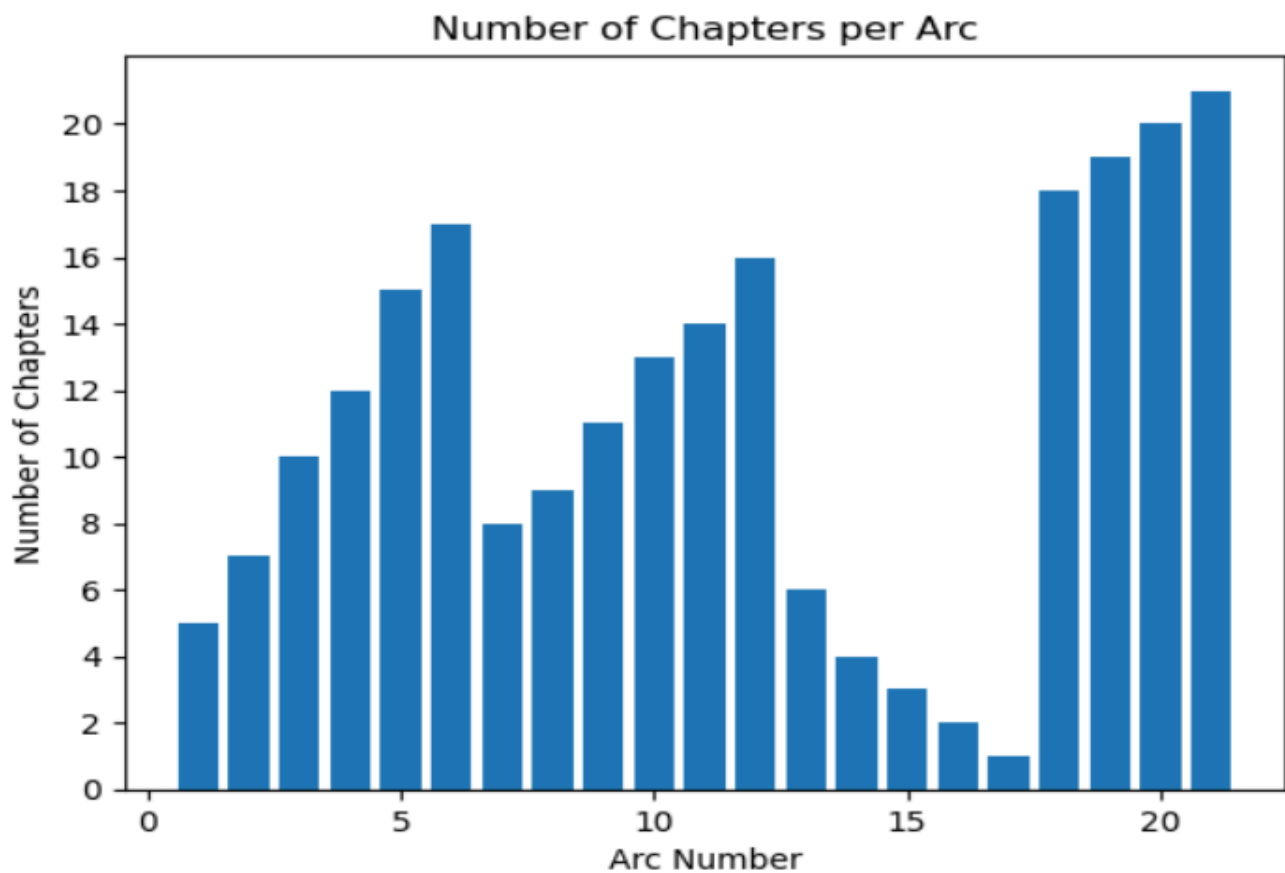
1. Arcs Visualization

(i)

```
import matplotlib.pyplot as plt

# Data for the number of chapters per arc
arc_chapters = [5, 7, 10, 12, 15, 17, 8, 9, 11, 13, 14, 16, 6, 4, 3, 2, 1, 18, 19, 20, 21]

# Create a bar chart
plt.bar(range(1, 22), arc_chapters)
plt.xlabel('Arc Number')
plt.ylabel('Number of Chapters')
plt.title('Number of Chapters per Arc')
plt.yticks(range(0, 22, 2)) # Set y-axis ticks to increment by 2
plt.show()
```



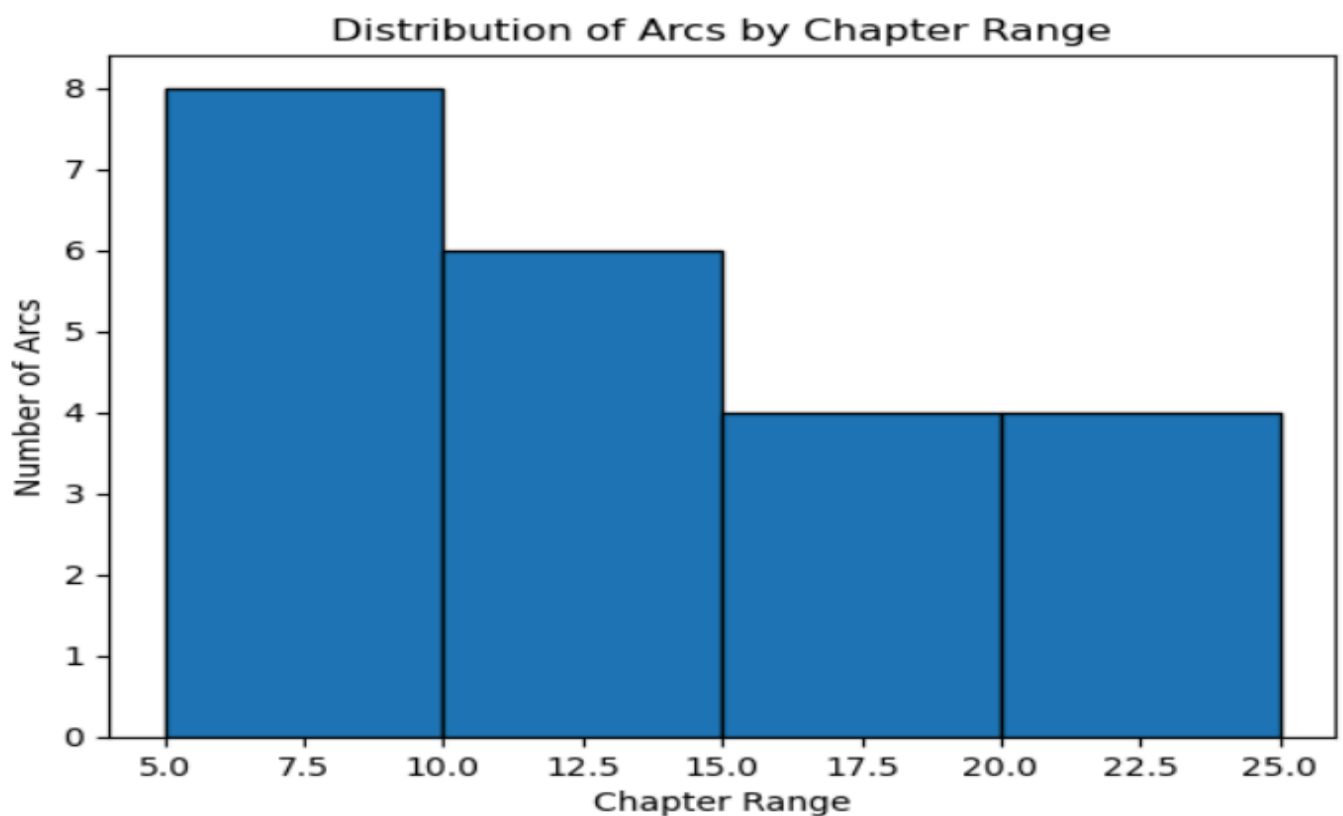
Bar chart: Number of chapters per arc

(ii)

```
import matplotlib.pyplot as plt

# Data for the distribution of arcs by chapter range
chapter_ranges = [5, 10, 15, 20, 25]
arc_counts = [8, 6, 4, 3, 1]

# Create a histogram
plt.hist(chapter_ranges, bins=chapter_ranges, weights=arc_counts, edgecolor='black')
plt.xlabel('Chapter Range')
plt.ylabel('Number of Arcs')
plt.title('Distribution of Arcs by Chapter Range')
plt.show()
```



Histogram: Distribution of arcs by chapter range

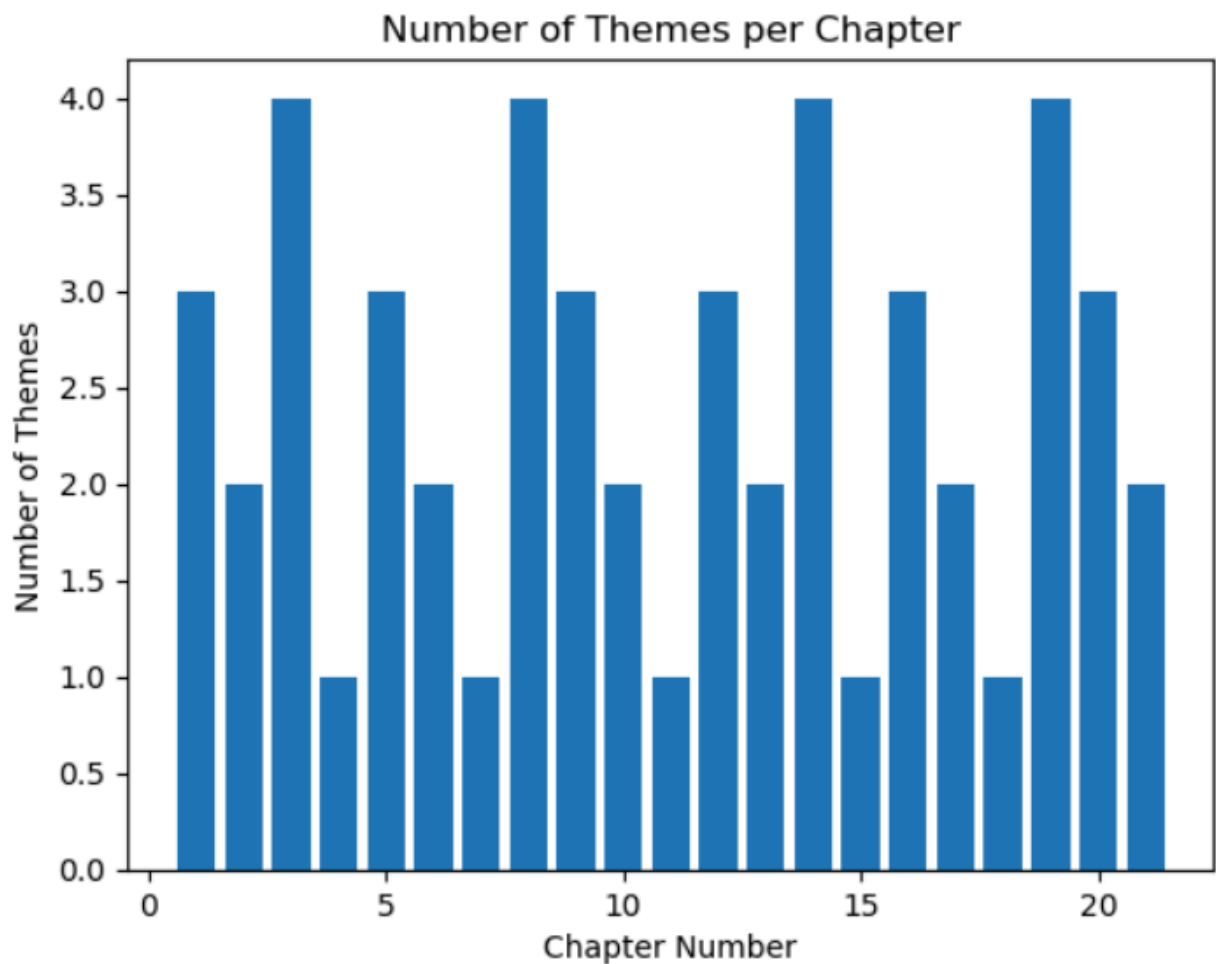
2. Chapter Visualization

(i)

```
import matplotlib.pyplot as plt

# Data for the number of themes per chapter
chapter_themes = [3, 2, 4, 1, 3, 2, 1, 4, 3, 2, 1, 3, 2, 4, 1, 3, 2, 1, 4, 3, 2]

# Create a bar chart
plt.bar(range(1, 22), chapter_themes)
plt.xlabel('Chapter Number')
plt.ylabel('Number of Themes')
plt.title('Number of Themes per Chapter')
plt.show()
```



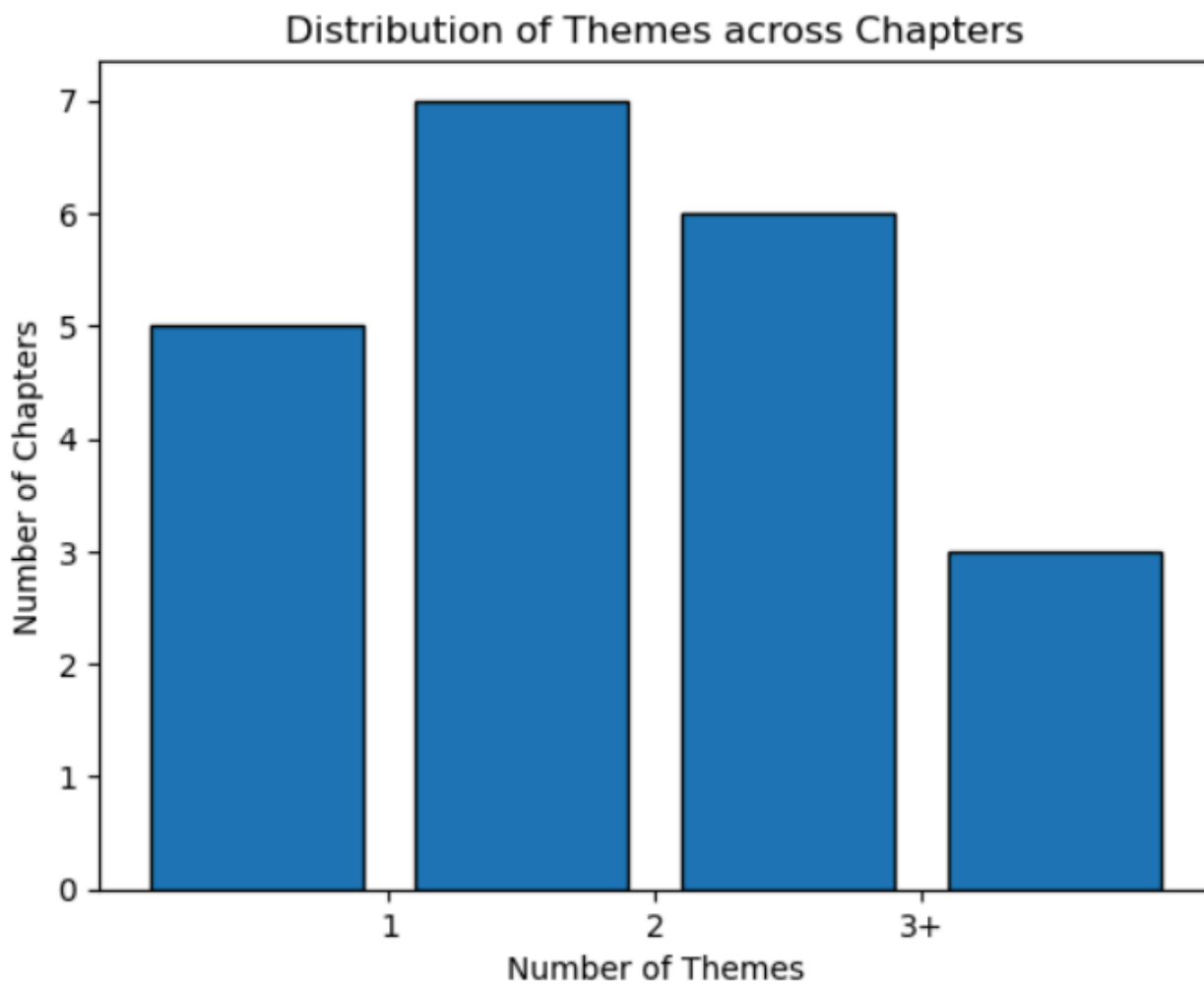
Bar Chart: Number of Themes per Chapter

(ii)

```
import matplotlib.pyplot as plt

# Data for the distribution of themes across chapters
theme_counts = [1, 2, 3, 4]
chapter_counts = [5, 7, 6, 3]

# Create a histogram
plt.hist(theme_counts, bins=[1, 2, 3, 4, 5], weights=chapter_counts, edgecolor='black', align='left', rwidth=0.8)
plt.xlabel('Number of Themes')
plt.ylabel('Number of Chapters')
plt.title('Distribution of Themes across Chapters')
plt.xticks([1.5, 2.5, 3.5], ['1', '2', '3+']) # Set x-axis tick labels
plt.show()
```



Histogram: Distribution of Themes across Chapters

3. Theme Visualization

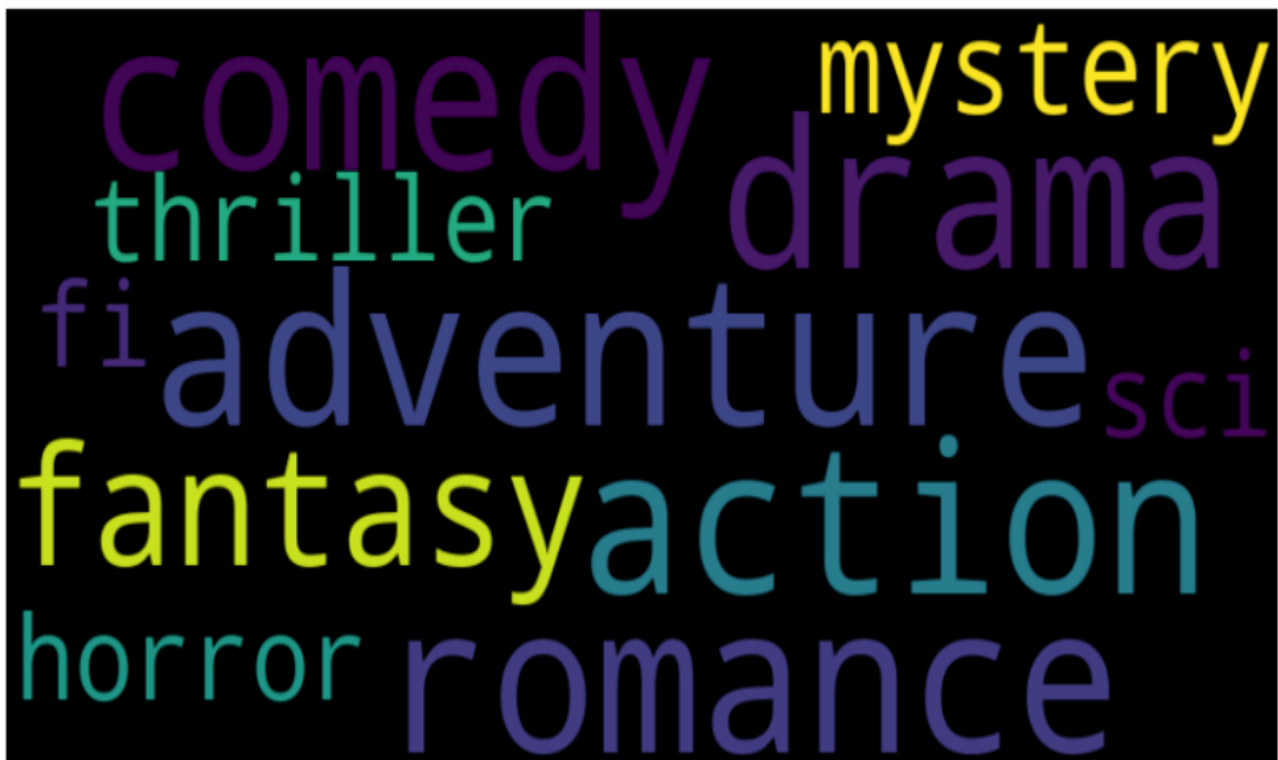
(i)

```
import matplotlib.pyplot as plt
from wordcloud import WordCloud

# Data for the most common themes in the series
theme_words = ['action', 'adventure', 'romance', 'comedy', 'drama', 'fantasy', 'mystery', 'thriller', 'horror', 'sci-fi']

# Create a word cloud
wordcloud = WordCloud(width=800, height=400, random_state=21, max_font_size=110).generate(' '.join(theme_words))
plt.figure(figsize=(10, 5))
plt.imshow(wordcloud, interpolation="bilinear")
plt.axis("off")
plt.title('Most Common Themes in the Series')
plt.show()
```

Most Common Themes in the Series



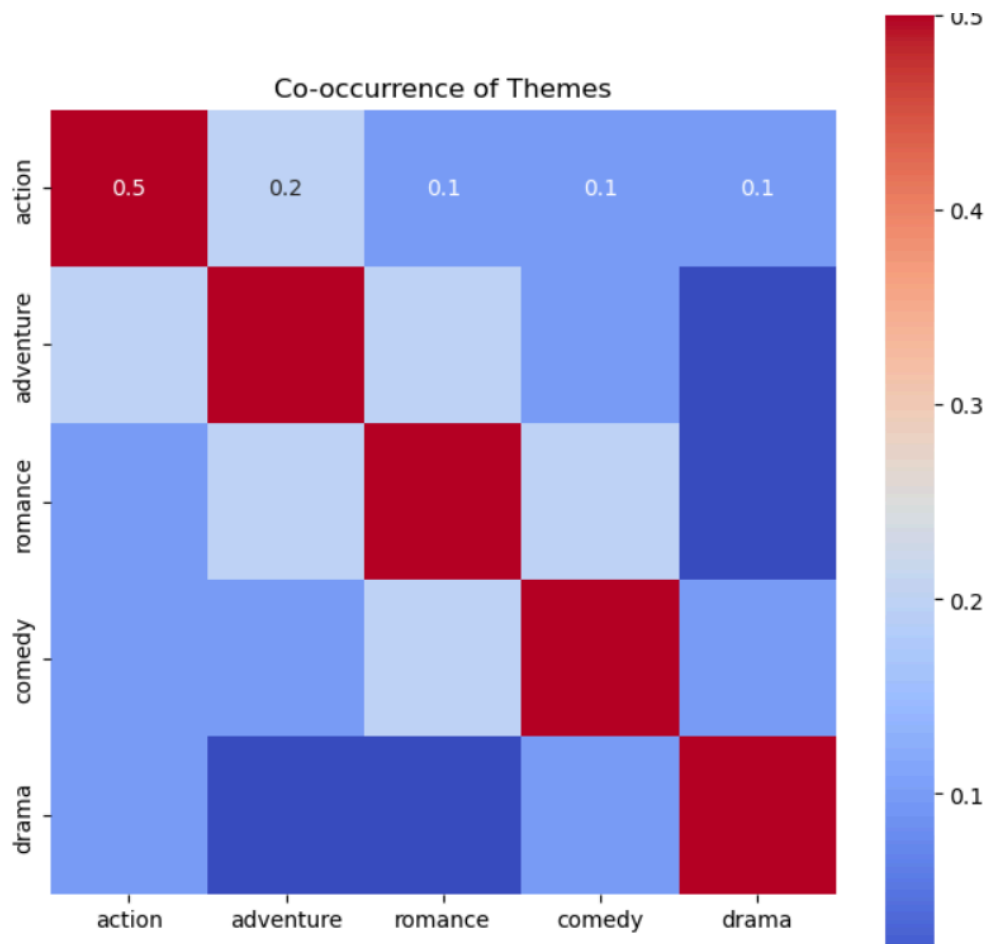
Word Cloud: Most Common Themes in the Series

(ii)

```
import matplotlib.pyplot as plt
import seaborn as sns
import pandas as pd

# Data for the co-occurrence of themes
theme_cooccurrence = pd.DataFrame({
    'action': [0.5, 0.2, 0.1, 0.1, 0.1],
    'adventure': [0.2, 0.5, 0.2, 0.1, 0.0],
    'romance': [0.1, 0.2, 0.5, 0.2, 0.0],
    'comedy': [0.1, 0.1, 0.2, 0.5, 0.1],
    'drama': [0.1, 0.0, 0.0, 0.1, 0.5]
}, index=['action', 'adventure', 'romance', 'comedy', 'drama'])

# Create a heatmap
plt.figure(figsize=(8, 8))
sns.heatmap(theme_cooccurrence, annot=True, cmap='coolwarm', square=True)
plt.title('Co-occurrence of Themes')
plt.show()
```



Heatmap: Co-occurrence of Themes

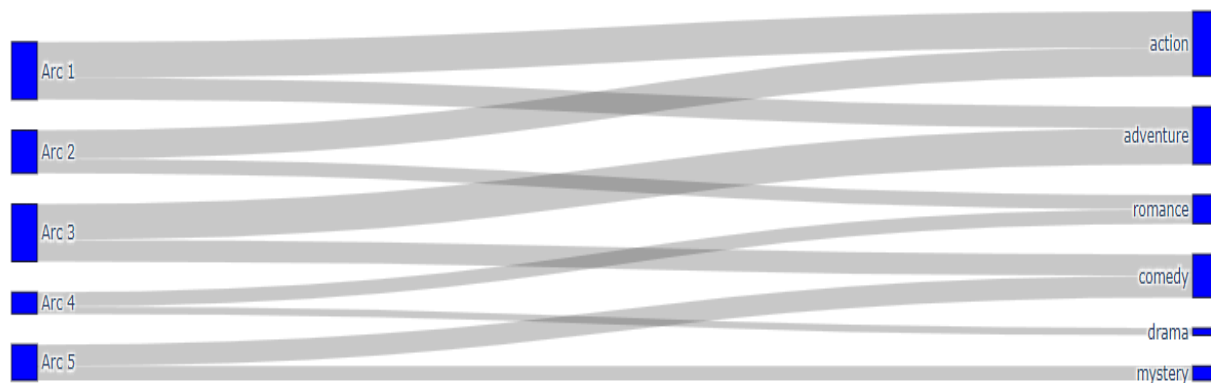
(iii)

```
import matplotlib.pyplot as plt
import plotly.graph_objects as go

arc_themes = [
    {'arc': 'Arc 1', 'theme': 'action', 'count': 5},
    {'arc': 'Arc 1', 'theme': 'adventure', 'count': 3},
    {'arc': 'Arc 2', 'theme': 'romance', 'count': 4},
    {'arc': 'Arc 2', 'theme': 'comedy', 'count': 2},
    {'arc': 'Arc 3', 'theme': 'drama', 'count': 5},
    {'arc': 'Arc 3', 'theme': 'mystery', 'count': 3},
    # ...
]

# Create a Sankey diagram
fig = go.Figure(data=[go.Sankey(
    node=dict(
        pad=15,
        thickness=20,
        line=dict(color="black", width=0.5),
        label=[f"Arc {i+1}" for i in range(5)] + ["action", "adventure", "romance", "comedy", "drama", "mystery"],
        color="blue"
    ),
    link=dict(
        source=[0, 0, 1, 1, 2, 2, 3, 3, 4, 4],
        target=[5, 6, 5, 7, 6, 8, 7, 9, 8, 10],
        value=[5, 3, 4, 2, 5, 3, 2, 1, 3, 2]
    )
)])
fig.update_layout(title_text="Distribution of Themes across Arcs", font_size=10)
fig.show()
```

Distribution of Themes across Arcs



Sankey Diagram: Distribution of Themes across Arcs