

Game of Thrones

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```
season = "season_4"
```

```
# Injected Parameters
season = "season_2"
```

```
import pandas as pd
from pathlib import Path
import os
from IPython.display import Markdown, display

# List of seasons to process
seasons = ["season_1", "season_2", "season_3", "season_4",
          "season_5", "season_6", "season_7", "season_8"]

# Construct the base data directory path
data_dir = Path("../Data/")

# Loop through each season
file_path = os.path.join(data_dir, season + '.csv')
print(file_path)
df = pd.read_csv(file_path)
```

```
..\Data\season_2.csv
```

```
display(Markdown(f"""
### Game of Thrones - {season} summary in numbers
"""))
```

0.1 Game of Thrones - season_2 summary in numbers

0.2 (*Warning: spoilers ahead*)

0.3 Overview

(From the [Wikipedia](#)) Game of Thrones is an American fantasy drama television series created by David Benioff and D. B. Weiss for HBO. It is an adaptation of A Song of Ice and Fire, a series of fantasy novels by George R. R. Martin, the first of which is A Game of Thrones.

Set on the fictional continents of Westeros and Essos, Game of Thrones has a large ensemble cast and follows several story arcs throughout the course of the show. A major arc concerns the Iron Throne of the Seven Kingdoms of Westeros through a web of political conflicts among the noble families either vying to claim the throne or fighting for independence from it. Another focuses on the last descendant of the realm's deposed ruling dynasty, who has been exiled to Essos and is plotting a return to the throne. A third story arc follows the Night's Watch, a military order defending the realm against threats from the North.

```
display(Markdown(f"""
### {season} - episode descriptions
"""))
```

0.4 season_2 - episode descriptions

```
for description in df["description"]:
    display(Markdown(f"""
    > {description}

""")) # Added extra newline for better spacing
```

- > In King's Landing, Tyrion becomes acting Hand of the King, much to Cersei's dismay. At Dragonstone, Stannis Baratheon is crowned King in the name of his deceased brother Robert.
- > Returning to Pyke Island after nine years as the Starks' ward, Theon is reunited with his sister Yara Greyjoy.
- > Catelny arrives at Renly's camp to negotiate an alliance. The female warrior, Brienne of Tarth, is sent to protect him.
- > Catelny attempts to unite the Baratheon brothers against the Lannisters, but Stannis demands that she swear loyalty to him.
- > At Harrenhal, Jaqen H'ghar, one of three caged prisoners Arya previously saved, pledges to protect her.
- > Against Cersei's wishes, Tyrion sends her and Jaime's daughter, Myrcella, to Dorne for protection.
- > Theon and his men pursue Brandon and Rickon. Tywin has Harrenhal searched for his officer's son.
- > Robb learns that Catelny secretly freed Jaime Lannister, who Brienne is escorting to ransom.
- > Stannis' fleet assaults King's Landing. Sansa plays the game, trying to manipulate Joffrey.
- > Joffrey sets Sansa aside to marry Margaery Tyrell and ally with the Tyrell family. Tyrion is arrested.

You can see how the viewership of the episodes changed in Figure 1.

```
import pandas as pd
import matplotlib.pyplot as plt
from matplotlib.ticker import MaxNLocator

# Create the plot
plt.figure(figsize=(14, 7))

# Create histogram-style bars
bars = plt.bar(df['no_season'], df['viewers'],
               color='darkred',
               alpha=0.7,
               edgecolor='black',
               width=0.6)

# Customize the plot
plt.title('Game of Thrones ' + str(season) + 'Viewer Ratings by Episode', fontsize=16, pad=20)
plt.xlabel('Episode Number', fontsize=12)
```

```

plt.ylabel('Viewers (Millions)', fontsize=12)
plt.grid(True, linestyle='--', alpha=0.3, axis='y')

# Ensure x-axis shows whole numbers for episode numbers
plt.gca().xaxis.set_major_locator(MaxNLocator(integer=True))

# Add value labels on top of each bar
for bar in bars:
    height = bar.get_height()
    plt.text(bar.get_x() + bar.get_width()/2., height,
             f'{height:.2f}',
             ha='center', va='bottom',
             fontsize=9)

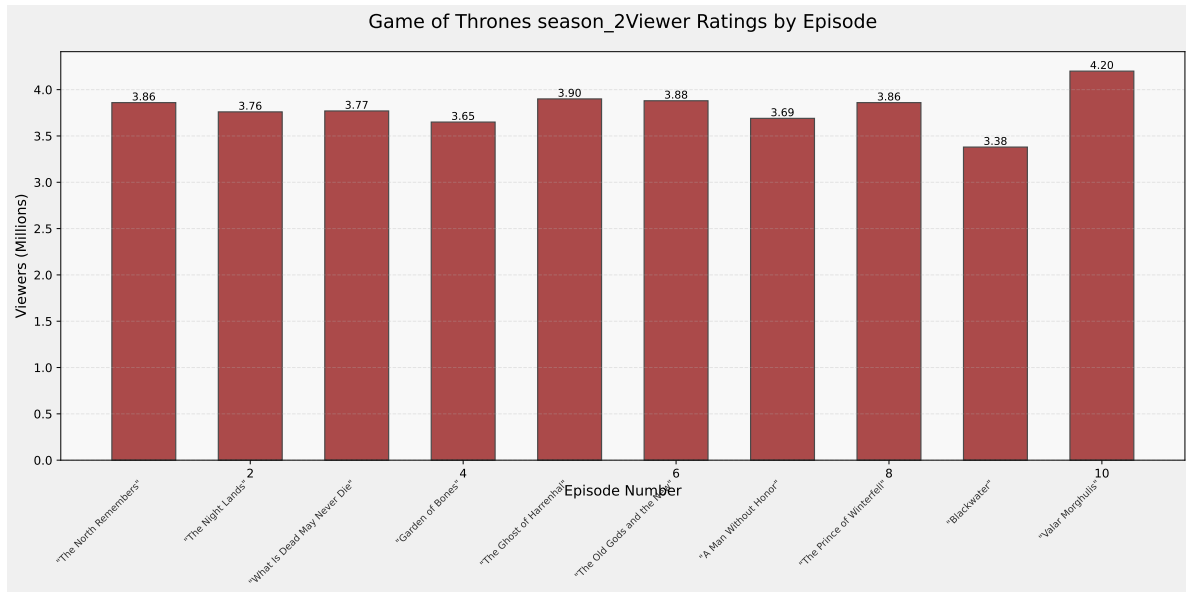
# Add episode titles below each bar
for i, row in df.iterrows():
    plt.text(row['no_season'], -0.2,
            row['title'],
            rotation=45,
            ha='right',
            va='top',
            fontsize=8,
            alpha=0.8)

# Adjust margins to accommodate episode titles
plt.subplots_adjust(bottom=0.3)

# Add some thematic styling
plt.gca().set_facecolor('#f8f8f8')
plt.gcf().set_facecolor('#f0f0f0')

plt.tight_layout()
plt.show()

```



```

from IPython.display import Markdown
import pandas as pd

# Calculate total viewers and average
total_viewers = df['viewers'].sum()
avg_view = total_viewers / len(df)

# Filter episodes with above-average viewership
above_avg = df[df['viewers'] >= avg_view]

# Create Markdown table
table_header = "| Episode | Title | Viewers (Millions) |\n|-----|-----|-----|
table_rows = []

for _, row in above_avg.iterrows():
    table_rows.append(f"| {int(row['no_season'])} | {row['title']} | {row['viewers']:.2f} |")

# Combine header and rows
markdown_table = f"""
**Episodes with Above-Average Viewership (Average: {avg_view:.2f} million viewers)**

{table_header}
{"\n".join(table_rows)}

```

```
"""

# Display the table
display(Markdown(markdown_table))
```

Episodes with Above-Average Viewership (Average: 3.80 million viewers)

Episode	Title	Viewers (Millions)
1	“The North Remembers”	3.86
5	“The Ghost of Harrenhal”	3.90
6	“The Old Gods and the New”	3.88
8	“The Prince of Winterfell”	3.86
10	“Valar Morghulis”	4.20