

```
In [2]: import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from collections import Counter
import re
from datetime import datetime
```

```
In [3]: pd.set_option("display.max_columns", 50)
pd.set_option("display.width", 200)
```

```
In [4]: playo = pd.read_excel("gplay_com.techmash.playo_7ed1cf59.xlsx")
khelo = pd.read_excel("gplay_com.khelomore.pnp_86a518b4.xlsx")
```

```
In [5]: playo
```

Out[5]:

| | | Unnamed: 0 | Unnamed: 1 | Author | Date | Rating | Review | Picture included | L |
|-----|-----|---------------|-------------------------|---------------------|------|--------|---|---------------------|-----|
| 0 | 1 | NaN | Purushotham Reddy | 2025-09-25 04:05:51 | | 5 | 7 7785P s | no | |
| 1 | 2 | NaN | Vivek Mishra | 2025-09-25 17:13:54 | | 5 | app is sucking | green | no |
| 2 | 3 | NaN | Shivukumar Pradhani | 2025-09-26 16:15:11 | | 1 | Issues with slot time selection | no | |
| 3 | 4 | NaN | Chandrasekaran Arumugam | 2025-09-26 17:48:41 | | 5 | excellent app and use full app | no | |
| 4 | 5 | NaN | Vivek Shetty | 2025-09-27 10:18:47 | | 1 | don't wanted injury insurance | no | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | 96 | NaN | Abhishek Malik | 2025-11-30 01:49:54 | | 5 | Great app to play sports & find like minded folks | no | |
| 96 | 97 | NaN | Devesh Gote | 2025-11-30 15:01:20 | | 2 | Playo Team - Could you please work on function... | no | |
| 97 | 98 | NaN | Rohit Naik | 2025-12-01 10:05:41 | | 5 | very useful! | no | |
| 98 | 99 | NaN | Ashish Patel | 2025-12-03 10:24:20 | | 1 | Unprofessional behaviour by the Playo team. Th... | no | |
| 99 | 100 | NaN | Shantanu Moody | 2025-12-04 07:18:57 | | 1 | Very annoying in the sense that they force not... | no | |

100 rows × 9 columns



In [6]: khelo

| Out[6]: | | Unnamed: 0 | Unnamed: 1 | Author | Date | Rating | Review | Picture included | Language |
|---------|-----|------------|------------|------------------|---------------------|--------|--|------------------|----------|
| | 0 | 1 | NaN | Shirish ! | 2024-11-30 11:45:20 | 1 | There is no option to reschedule the booking. ... | no | en_l |
| | 1 | 2 | NaN | Omkar Bilaye | 2024-12-03 17:49:56 | 1 | Worst app... they cancel the booking and don't... | no | en_l |
| | 2 | 3 | NaN | Yash Dubey | 2024-12-03 18:47:23 | 5 | Amazing app very helpful | no | en_l |
| | 3 | 4 | NaN | Harsh Kesharia | 2024-12-05 18:35:22 | 3 | You really need to have a courteous team and a... | no | en_l |
| | 4 | 5 | NaN | Ajay Pathak | 2024-12-08 19:52:46 | 1 | Absolutely pathetic user experience Looks like... | no | en_l |
| | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | 95 | 96 | NaN | ADITHYA RAJ | 2025-11-14 04:16:43 | 1 | CHEATING PEOPLE ON THE TIME SLOT FORMAT . I re... | no | en_l |
| | 96 | 97 | NaN | satya narayan | 2025-11-17 16:06:29 | 5 | Nice | no | en_l |
| | 97 | 98 | NaN | Smruthi Hosamana | 2025-11-23 12:13:37 | 1 | pathetic...the booked event / slot keeps disa... | no | en_l |
| | 98 | 99 | NaN | naresh talari | 2025-11-27 13:23:27 | 5 | very good | no | en_l |
| | 99 | 100 | NaN | Manav Salvi | 2025-12-04 02:05:44 | 1 | one of the worst experience while trying to re... | no | en_l |

100 rows × 9 columns



In [8]: `playo = playo.loc[:, ~playo.columns.str.contains("Unnamed")]`

playo

Out[8]:

| | Author | Date | Rating | Review | Picture included | Language | (view source) |
|-----|-------------------------|---------------------|--------|---|------------------|----------|-----------------------------|
| 0 | Purushotham Reddy | 2025-09-25 04:05:51 | 5 | 7 7785P s | no | en_US | view review |
| 1 | Vivek Mishra | 2025-09-25 17:13:54 | 5 | app is sucking | no | en_US | view review |
| 2 | Shivukumar Pradhani | 2025-09-26 16:15:11 | 1 | Issues with slot time selection | no | en_US | view review |
| 3 | Chandrasekaran Arumugam | 2025-09-26 17:48:41 | 5 | excellent app and use full app | no | en_US | view review |
| 4 | Vivek Shetty | 2025-09-27 10:18:47 | 1 | don't wanted injury insurance | no | en_US | view review |
| ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | Abhishek Malik | 2025-11-30 01:49:54 | 5 | Great app to play sports & find like minded folks | no | en_US | view review |
| 96 | Devesh Gote | 2025-11-30 15:01:20 | 2 | Playo Team - Could you please work on function... | no | en_US | view review |
| 97 | Rohit Naik | 2025-12-01 10:05:41 | 5 | very useful! | no | en_US | view review |
| 98 | Ashish Patel | 2025-12-03 10:24:20 | 1 | Unprofessional behaviour by the Playo team. Th... | no | en_US | view review |
| 99 | Shantanu Moody | 2025-12-04 07:18:57 | 1 | Very annoying in the sense that they force not... | no | en_US | view review |

100 rows × 7 columns

In [17]: `playo["date"] = pd.to_datetime(playo["date"])`In [18]: `playo["rating"] = pd.to_numeric(playo["rating"], errors="coerce")
playo = playo.dropna(subset=["rating", "review"])
playo["review"] = playo["review"].astype(str).str.strip()
playo`

Out[18]:

| | author | date | rating | review | picture_included | language | (view source) |
|-----|-------------------------|---------------------|--------|---|---|----------|-----------------------------------|
| 0 | Purushotham Reddy | 2025-09-25 04:05:51 | 5 | 7 7785P s | | no | en_US view review |
| 1 | Vivek Mishra | 2025-09-25 17:13:54 | 5 | app is sucking |  | no | en_US view review |
| 2 | Shivukumar Pradhani | 2025-09-26 16:15:11 | 1 | Issues with slot time selection | | no | en_US view review |
| 3 | Chandrasekaran Arumugam | 2025-09-26 17:48:41 | 5 | excellent app and use full app | | no | en_US view review |
| 4 | Vivek Shetty | 2025-09-27 10:18:47 | 1 | don't wanted injury insurance | | no | en_US view review |
| ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | Abhishek Malik | 2025-11-30 01:49:54 | 5 | Great app to play sports & find like minded folks | | no | en_US view review |
| 96 | Devesh Gote | 2025-11-30 15:01:20 | 2 | Playo Team - Could you please work on function... | | no | en_US view review |
| 97 | Rohit Naik | 2025-12-01 10:05:41 | 5 | very useful! | | no | en_US view review |
| 98 | Ashish Patel | 2025-12-03 10:24:20 | 1 | Unprofessional behaviour by the Playo team. Th... | | no | en_US view review |
| 99 | Shantanu Moody | 2025-12-04 07:18:57 | 1 | Very annoying in the sense that they force not... | | no | en_US view review |

100 rows × 8 columns



In [20]:

```
khelo = khelo.loc[:, ~khelo.columns.str.contains("Unnamed")]
khelo
```

Out[20]:

| | Author | Date | Rating | Review | Picture included | Language | (view source) |
|-----|------------------|---------------------|--------|---|------------------|----------|-----------------------------|
| 0 | Shirish ! | 2024-11-30 11:45:20 | 1 | There is no option to reschedule the booking. ... | no | en_US | view review |
| 1 | Omkar Bilaye | 2024-12-03 17:49:56 | 1 | Worst app... they cancel the booking and don't... | no | en_US | view review |
| 2 | Yash Dubey | 2024-12-03 18:47:23 | 5 | Amazing app very helpful | no | en_US | view review |
| 3 | Harsh Kesharia | 2024-12-05 18:35:22 | 3 | You really need to have a courteous team and a... | no | en_US | view review |
| 4 | Ajay Pathak | 2024-12-08 19:52:46 | 1 | Absolutely pathetic user experience Looks like... | no | en_US | view review |
| ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | ADITHYA RAJ | 2025-11-14 04:16:43 | 1 | CHEATING PEOPLE ON THE TIME SLOT FORMAT . I re... | no | en_US | view review |
| 96 | satya narayan | 2025-11-17 16:06:29 | 5 | Nice | no | en_US | view review |
| 97 | Smruthi Hosamana | 2025-11-23 12:13:37 | 1 | pathetic....the booked event / slot keeps disa... | no | en_US | view review |
| 98 | naresh talari | 2025-11-27 13:23:27 | 5 | very good | no | en_US | view review |
| 99 | Manav Salvi | 2025-12-04 02:05:44 | 1 | one of the worst experience while trying to re... | no | en_US | view review |

100 rows × 7 columns

In [21]:

```
khelo["Date"] = pd.to_datetime(khelo["Date"])
khelo["Rating"] = pd.to_numeric(khelo["Rating"], errors="coerce")
khelo = khelo.dropna(subset=["Rating", "Review"])
khelo["Review"] = khelo["Review"].astype(str).str.strip()
```

In [22]:

khelo

Out[22]:

| | Author | Date | Rating | Review | Picture included | Language | (view source) | Date\t |
|-----|------------------|---------------------|--------|---|------------------|----------|-----------------------------|---------------------|
| 0 | Shirish ! | 2024-11-30 11:45:20 | 1 | There is no option to reschedule the booking. | no | en_US | view review | 2024-11-30 11:45:20 |
| 1 | Omkar Bilaye | 2024-12-03 17:49:56 | 1 | Worst app... they cancel the booking and don't... | no | en_US | view review | 2024-12-03 17:49:56 |
| 2 | Yash Dubey | 2024-12-03 18:47:23 | 5 | Amazing app very helpful | no | en_US | view review | 2024-12-03 18:47:23 |
| 3 | Harsh Kesharia | 2024-12-05 18:35:22 | 3 | You really need to have a courteous team and a... | no | en_US | view review | 2024-12-05 18:35:22 |
| 4 | Ajay Pathak | 2024-12-08 19:52:46 | 1 | Absolutely pathetic user experience Looks like... | no | en_US | view review | 2024-12-08 19:52:46 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | ADITHYA RAJ | 2025-11-14 04:16:43 | 1 | CHEATING PEOPLE ON THE TIME SLOT FORMAT . I re... | no | en_US | view review | 2025-11-14 04:16:43 |
| 96 | satya narayan | 2025-11-17 16:06:29 | 5 | Nice | no | en_US | view review | 2025-11-17 16:06:29 |
| 97 | Smruthi Hosamana | 2025-11-23 12:13:37 | 1 | pathetic....the booked event / slot keeps disa... | no | en_US | view review | 2025-11-23 12:13:37 |
| 98 | naresh talari | 2025-11-27 13:23:27 | 5 | very good | no | en_US | view review | 2025-11-27 13:23:27 |
| 99 | Manav Salvi | 2025-12-04 02:05:44 | 1 | one of the worst experience while trying to re... | no | en_US | view review | 2025-12-04 02:05:44 |

100 rows × 8 columns

In [23]:

```
rating1 = playo["rating"].describe().round(2)
rating1
```

```
Out[23]: count    100.00
          mean     2.91
          std      1.83
          min     1.00
          25%     1.00
          50%     3.00
          75%     5.00
          max     5.00
          Name: rating, dtype: float64
```

```
In [24]: rating2 = khelo["Rating"].describe().round(2)
rating2
```

```
Out[24]: count    100.00
          mean     3.50
          std      1.85
          min     1.00
          25%     1.00
          50%     5.00
          75%     5.00
          max     5.00
          Name: Rating, dtype: float64
```

```
In [59]: distribution1 = playo["rating"].value_counts().sort_index()
distribution1
```

```
Out[59]: rating
1     42
2      7
3      7
4      6
5     38
          Name: count, dtype: int64
```

```
In [25]: distribution2 = khelo["Rating"].value_counts().sort_index()
distribution2
```

```
Out[25]: Rating
1     33
2      2
3      3
4      6
5     56
          Name: count, dtype: int64
```

```
In [26]: playo["month"] = playo["date"].dt.to_period("M")
monthly_avg = playo.groupby("month")["rating"].mean().reset_index()
monthly_avg["month"] = monthly_avg["month"].astype(str)
playo
```

Out[26]:

| | author | date | rating | review | picture_included | language | (view source) |
|-----|-------------------------|---------------------|--------|---|---|----------|-----------------------------------|
| 0 | Purushotham Reddy | 2025-09-25 04:05:51 | 5 | 7 7785P s | | no | en_US view review |
| 1 | Vivek Mishra | 2025-09-25 17:13:54 | 5 | app is sucking |  | no | en_US view review |
| 2 | Shivukumar Pradhani | 2025-09-26 16:15:11 | 1 | Issues with slot time selection | | no | en_US view review |
| 3 | Chandrasekaran Arumugam | 2025-09-26 17:48:41 | 5 | excellent app and use full app | | no | en_US view review |
| 4 | Vivek Shetty | 2025-09-27 10:18:47 | 1 | don't wanted injury insurance | | no | en_US view review |
| ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | Abhishek Malik | 2025-11-30 01:49:54 | 5 | Great app to play sports & find like minded folks | | no | en_US view review |
| 96 | Devesh Gote | 2025-11-30 15:01:20 | 2 | Playo Team - Could you please work on function... | | no | en_US view review |
| 97 | Rohit Naik | 2025-12-01 10:05:41 | 5 | very useful! | | no | en_US view review |
| 98 | Ashish Patel | 2025-12-03 10:24:20 | 1 | Unprofessional behaviour by the Playo team. Th... | | no | en_US view review |
| 99 | Shantanu Moody | 2025-12-04 07:18:57 | 1 | Very annoying in the sense that they force not... | | no | en_US view review |

100 rows × 9 columns



In [27]:

```

khelo["month"] = khelo["Date"].dt.to_period("M")
monthly_avg = khelo.groupby("month")["Rating"].mean().reset_index()
monthly_avg["month"] = monthly_avg["month"].astype(str)
khelo

```

Out[27]:

| | Author | Date | Rating | Review | Picture included | Language | (view source) | Date\time |
|-----|------------------|---------------------|--------|---|------------------|----------|---------------|---------------------|
| 0 | Shirish ! | 2024-11-30 11:45:20 | 1 | There is no option to reschedule the booking. | no | en_US | view review | 2024-11-30 11:45:20 |
| 1 | Omkar Bilaye | 2024-12-03 17:49:56 | 1 | Worst app... they cancel the booking and don't... | no | en_US | view review | 2024-12-03 17:49:56 |
| 2 | Yash Dubey | 2024-12-03 18:47:23 | 5 | Amazing app very helpful | no | en_US | view review | 2024-12-03 18:47:23 |
| 3 | Harsh Kesharia | 2024-12-05 18:35:22 | 3 | You really need to have a courteous team and a... | no | en_US | view review | 2024-12-05 18:35:22 |
| 4 | Ajay Pathak | 2024-12-08 19:52:46 | 1 | Absolutely pathetic user experience Looks like... | no | en_US | view review | 2024-12-08 19:52:46 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | ADITHYA RAJ | 2025-11-14 04:16:43 | 1 | CHEATING PEOPLE ON THE TIME SLOT FORMAT . I re... | no | en_US | view review | 2025-11-14 04:16:43 |
| 96 | satya narayan | 2025-11-17 16:06:29 | 5 | Nice | no | en_US | view review | 2025-11-17 16:06:29 |
| 97 | Smruthi Hosamana | 2025-11-23 12:13:37 | 1 | pathetic....the booked event / slot keeps disa... | no | en_US | view review | 2025-11-23 12:13:37 |
| 98 | naresh talari | 2025-11-27 13:23:27 | 5 | very good | no | en_US | view review | 2025-11-27 13:23:27 |
| 99 | Manav Salvi | 2025-12-04 02:05:44 | 1 | one of the worst experience while trying to re... | no | en_US | view review | 2025-12-04 02:05:44 |

100 rows × 9 columns



In [28]:

```
playo["review_len"] = playo["review"].str.len()
review_len_summary = playo["review_len"].describe().round(2)
```

```
language_distribution = playo["language"].value_counts()
playo
```

Out[28]:

| | author | date | rating | review | picture_included | language | (view source) |
|-----|-------------------------|---------------------|--------|---|------------------|----------|-----------------------------------|
| 0 | Purushotham Reddy | 2025-09-25 04:05:51 | 5 | 7 7785P s | | no | en_US view review |
| 1 | Vivek Mishra | 2025-09-25 17:13:54 | 5 | app is sucking | 💡 | no | en_US view review |
| 2 | Shivukumar Pradhani | 2025-09-26 16:15:11 | 1 | Issues with slot time selection | | no | en_US view review |
| 3 | Chandrasekaran Arumugam | 2025-09-26 17:48:41 | 5 | excellent app and use full app | | no | en_US view review |
| 4 | Vivek Shetty | 2025-09-27 10:18:47 | 1 | don't wanted injury insurance | | no | en_US view review |
| ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | Abhishek Malik | 2025-11-30 01:49:54 | 5 | Great app to play sports & find like minded folks | | no | en_US view review |
| 96 | Devesh Gote | 2025-11-30 15:01:20 | 2 | Playo Team - Could you please work on function... | | no | en_US view review |
| 97 | Rohit Naik | 2025-12-01 10:05:41 | 5 | very useful! | | no | en_US view review |
| 98 | Ashish Patel | 2025-12-03 10:24:20 | 1 | Unprofessional behaviour by the Playo team. Th... | | no | en_US view review |
| 99 | Shantanu Moody | 2025-12-04 07:18:57 | 1 | Very annoying in the sense that they force not... | | no | en_US view review |

100 rows × 10 columns



In [29]:

```
khelo["review_len"] = khelo["Review"].str.len()
review_len_summary = khelo["review_len"].describe().round(2)
language_distribution = khelo["Language"].value_counts()
khelo
```

Out[29]:

| | Author | Date | Rating | Review | Picture included | Language | (view source) | Date\time | more |
|-----|------------------|---------------------|--------|---|------------------|----------|-----------------------------|---------------------|------|
| 0 | Shirish ! | 2024-11-30 11:45:20 | 1 | There is no option to reschedule the booking. | no | en_US | view review | 2024-11-30 11:45:20 | ... |
| 1 | Omkar Bilaye | 2024-12-03 17:49:56 | 1 | Worst app... they cancel the booking and don't... | no | en_US | view review | 2024-12-03 17:49:56 | |
| 2 | Yash Dubey | 2024-12-03 18:47:23 | 5 | Amazing app very helpful | no | en_US | view review | 2024-12-03 18:47:23 | |
| 3 | Harsh Kesharia | 2024-12-05 18:35:22 | 3 | You really need to have a courteous team and a... | no | en_US | view review | 2024-12-05 18:35:22 | |
| 4 | Ajay Pathak | 2024-12-08 19:52:46 | 1 | Absolutely pathetic user experience Looks like... | no | en_US | view review | 2024-12-08 19:52:46 | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 95 | ADITHYA RAJ | 2025-11-14 04:16:43 | 1 | CHEATING PEOPLE ON THE TIME SLOT FORMAT . I re... | no | en_US | view review | 2025-11-14 04:16:43 | |
| 96 | satya narayan | 2025-11-17 16:06:29 | 5 | Nice | no | en_US | view review | 2025-11-17 16:06:29 | |
| 97 | Smruthi Hosamana | 2025-11-23 12:13:37 | 1 | pathetic....the booked event / slot keeps disa... | no | en_US | view review | 2025-11-23 12:13:37 | |
| 98 | naresh talari | 2025-11-27 13:23:27 | 5 | very good | no | en_US | view review | 2025-11-27 13:23:27 | |
| 99 | Manav Salvi | 2025-12-04 02:05:44 | 1 | one of the worst experience while trying to re... | no | en_US | view review | 2025-12-04 02:05:44 | |

100 rows × 10 columns



In [30]: `def sentiment_bucket(r):
 if r >= 4:`

```
        return "positive"
    elif r <= 2:
        return "negative"
    else:
        return "neutral"
```

```
In [31]: playo["sentiment"] = playo["rating"].apply(sentiment_bucket)
```

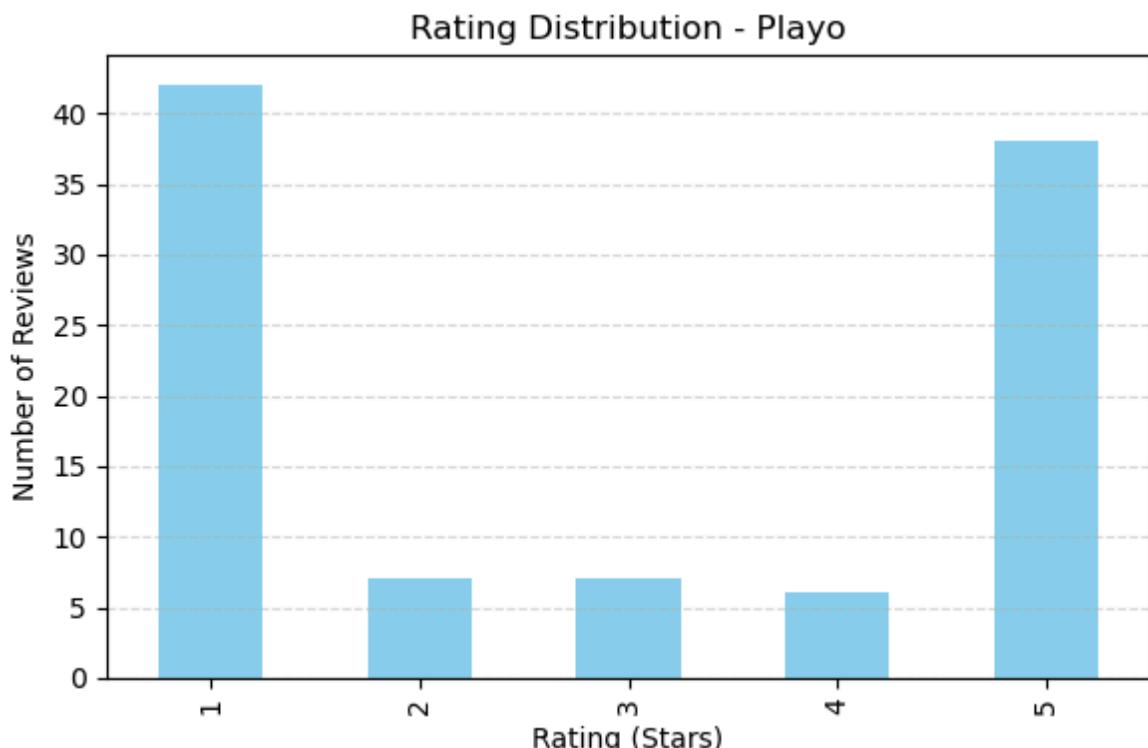
```
In [32]: sentiment1 = playo["sentiment"].value_counts()
sentiment1
```

```
Out[32]: sentiment
negative    49
positive    44
neutral     7
Name: count, dtype: int64
```

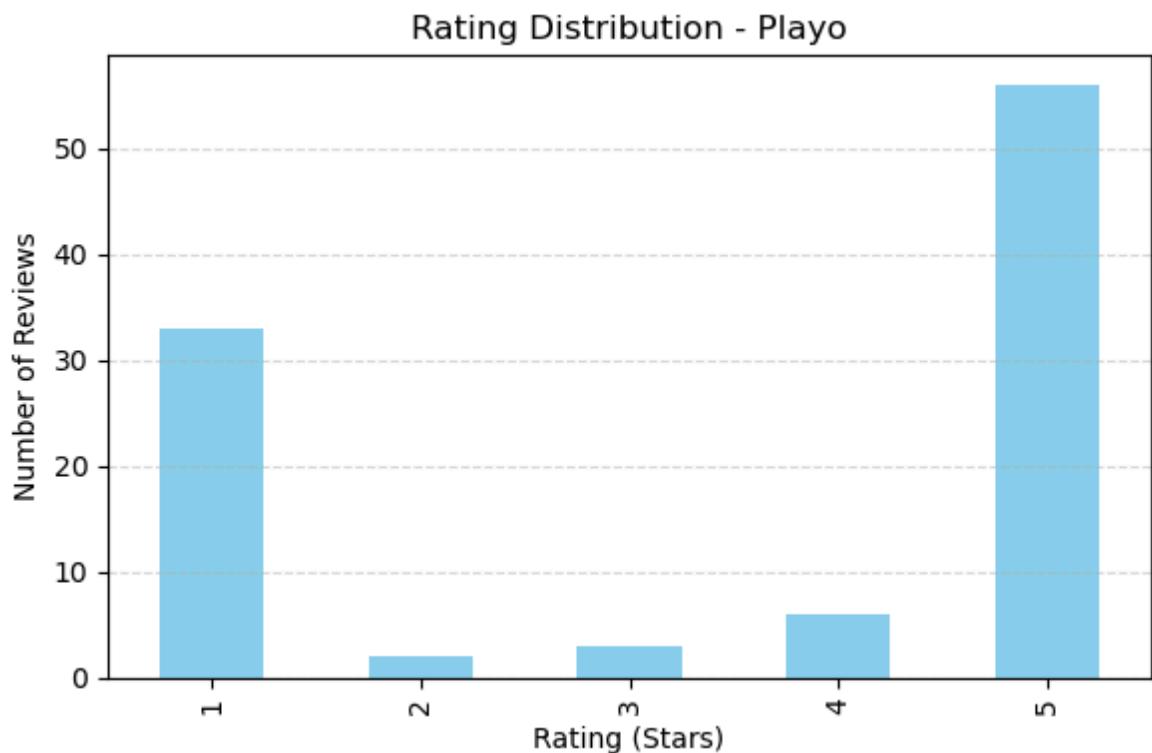
```
In [33]: khelo["sentiment"] = khelo["Rating"].apply(sentiment_bucket)
sentiment2 = khelo["sentiment"].value_counts()
sentiment2
```

```
Out[33]: sentiment
positive    62
negative    35
neutral     3
Name: count, dtype: int64
```

```
In [34]: plt.figure(figsize=(6,4))
playo["rating"].value_counts().sort_index().plot(kind="bar", color="skyblue")
plt.title("Rating Distribution - Playo")
plt.xlabel("Rating (Stars)")
plt.ylabel("Number of Reviews")
plt.grid(axis="y", linestyle="--", alpha=0.5)
plt.tight_layout()
plt.show()
```

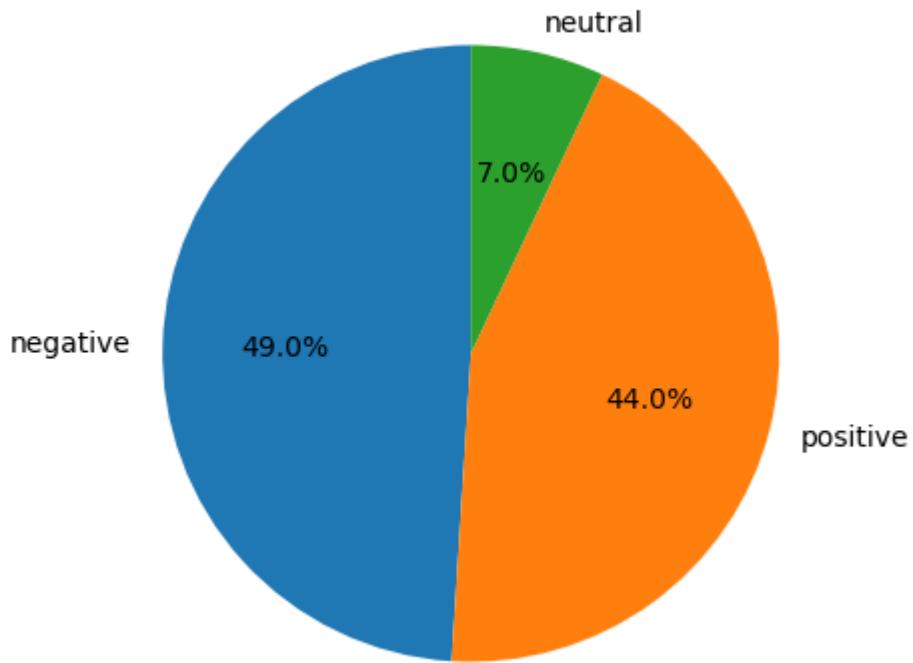


```
In [35]: plt.figure(figsize=(6,4))
khelo["Rating"].value_counts().sort_index().plot(kind="bar", color="skyblue")
plt.title("Rating Distribution - Playo")
plt.xlabel("Rating (Stars)")
plt.ylabel("Number of Reviews")
plt.grid(axis="y", linestyle="--", alpha=0.5)
plt.tight_layout()
plt.show()
```



```
In [36]: plt.figure(figsize=(5,5))
sentiment1.plot(kind="pie", autopct="%1.1f%%", startangle=90, ylabel="")
plt.title("Sentiment Distribution - Playo")
plt.show()
```

Sentiment Distribution - Playo



```
In [37]: plt.figure(figsize=(5,5))
sentiment2.plot(kind="pie", autopct="%1.1f%%", startangle=90, ylabel="")
plt.title("Sentiment Distribution - Playo")
plt.show()
```

