```
#IMPORT LIBRARIES
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from textblob import TextBlob
from wordcloud import WordCloud
```

```
#LOAD DATA
df = pd.read_csv("event_feedback.csv")
df.head()
```

	Event Name	Department	Rating	Feedback
0	Sports Meet	Engineering	2	Well organized and fun, but more events could ...
1	Music Concert	Arts	2	The workshops were very informative and engaging.
2	Robotics Expo	Medical	3	Well organized and fun, but more events could ...
3	Debate Competition	Arts	2	Good content but the session was a bit rushed.
4	Debate Competition	Physical Education	1	Good debate topics but time management was an ...

Next steps: Generate code with df New interactive sheet

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 50 entries, 0 to 49
Data columns (total 6 columns):
 #   Column      Non-Null Count  Dtype 
---  ------      --------------  ----- 
 0   Event Name  50 non-null     object
 1   Department  50 non-null     object
 2   Rating      50 non-null     int64 
 3   Feedback    50 non-null     object
 4   Event Type  50 non-null     object
 5   Sentiment   50 non-null     object
dtypes: int64(1), object(5)
memory usage: 2.5+ KB
```

```
#CLEAN & PREPARE DATA
df['Event Name'] = df['Event Name'].str.strip()
df['Department'] = df['Department'].str.strip()
df['Feedback'] = df['Feedback'].str.strip()
df['Rating'] = pd.to_numeric(df['Rating'], errors='coerce')
df = df.dropna()
```

```
# Add Event Type column for comparison
df['Event Type'] = df['Event Name'].apply(lambda x: 'Workshop' if 'Workshop' in x or 'Hackathon' in
```

```
# Check for Missing Values
df.isnull().sum()
```

```
               0
Event Name     0
Department     0
    Rating     0
  Feedback     0
Event Type     0

dtype: int64
```

```
# Summary Statistics
df['Rating'].describe()
```

```
          Rating
count  50.000000
 mean   3.100000
  std   1.216385
  min   1.000000
  25%   2.000000
  50%   3.000000
  75%   4.000000
  max   5.000000

dtype: float64
```

```
# Average rating by department or event
df.groupby('Department')['Rating'].mean()
df.groupby('Event Name')['Rating'].mean()
```

	Rating
Event Name	
AI Workshop	2.600000
Coding Hackathon	4.000000
Cultural Night	3.714286
Debate Competition	1.600000
Drama Festival	3.400000
Health Camp	3.000000
Music Concert	3.000000
Robotics Expo	3.125000
Sports Meet	2.500000
Tech Fest	4.000000

dtype: float64

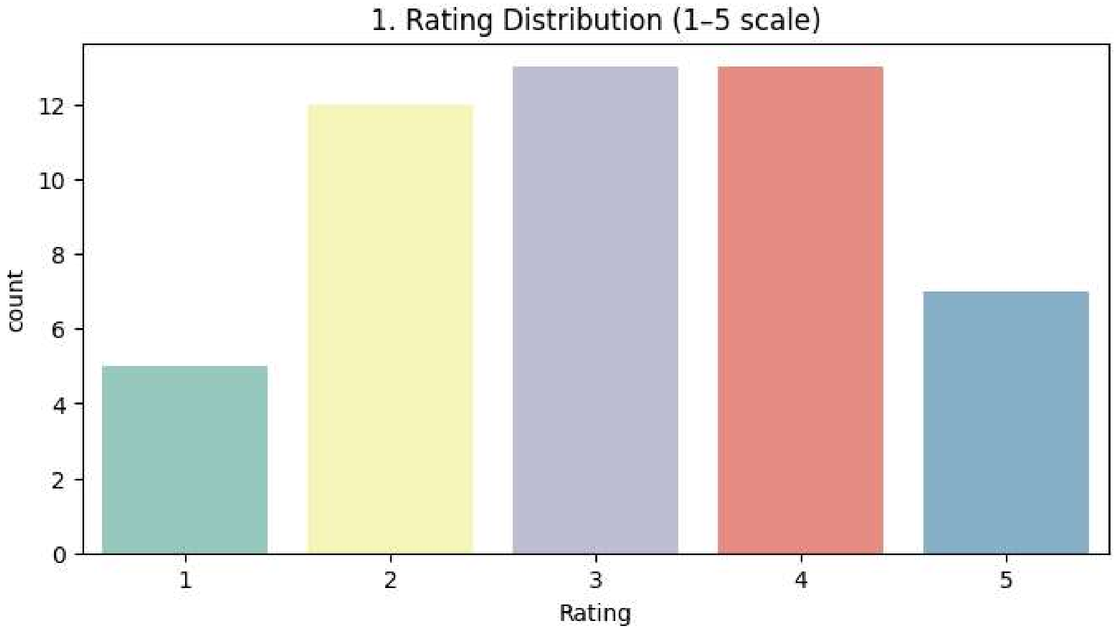
```
#SENTIMENT ANALYSIS
def get_sentiment(feedback):
    score = TextBlob(feedback).sentiment.polarity
    if score > 0:
        return 'Positive'
    elif score < 0:
        return 'Negative'
    else:
        return 'Neutral'

df['Sentiment'] = df['Feedback'].apply(get_sentiment)
```

```
#TOP 3 EVENTS (BY RATING)
top3_events = df.groupby('Event Name')['Rating'].mean().sort_values(ascending=False).head(3)
print("Top 3 Events by Average Rating:\n", top3_events)
```

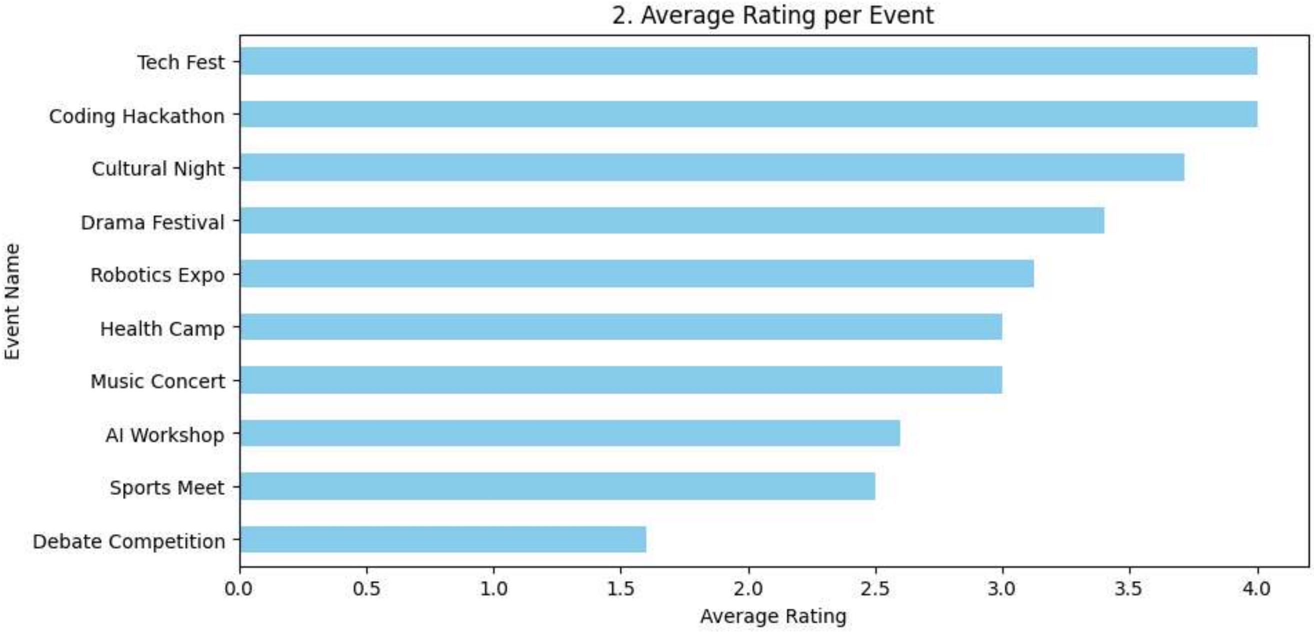
```
Top 3 Events by Average Rating:
 Event Name
Coding Hackathon    4.000000
Tech Fest           4.000000
Cultural Night      3.714286
Name: Rating, dtype: float64
```

```
#Rating Distribution
plt.figure(figsize=(8,4))
sns.countplot(x='Rating', data=df, palette='Set3')
plt.title("1. Rating Distribution (1–5 scale)")
plt.show()
```

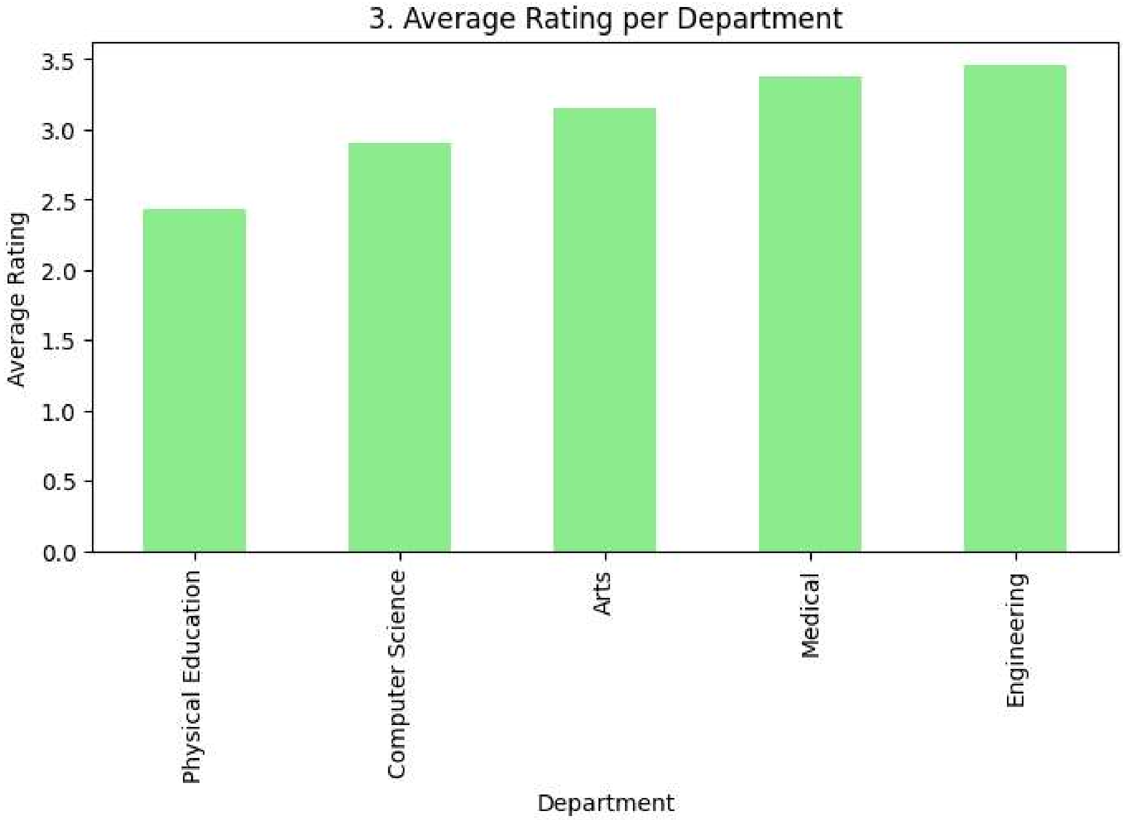
```
:mp/ipython-input-1546858649.py:3: FutureWarning:

assing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x

 sns.countplot(x='Rating', data=df, palette='Set3')
```



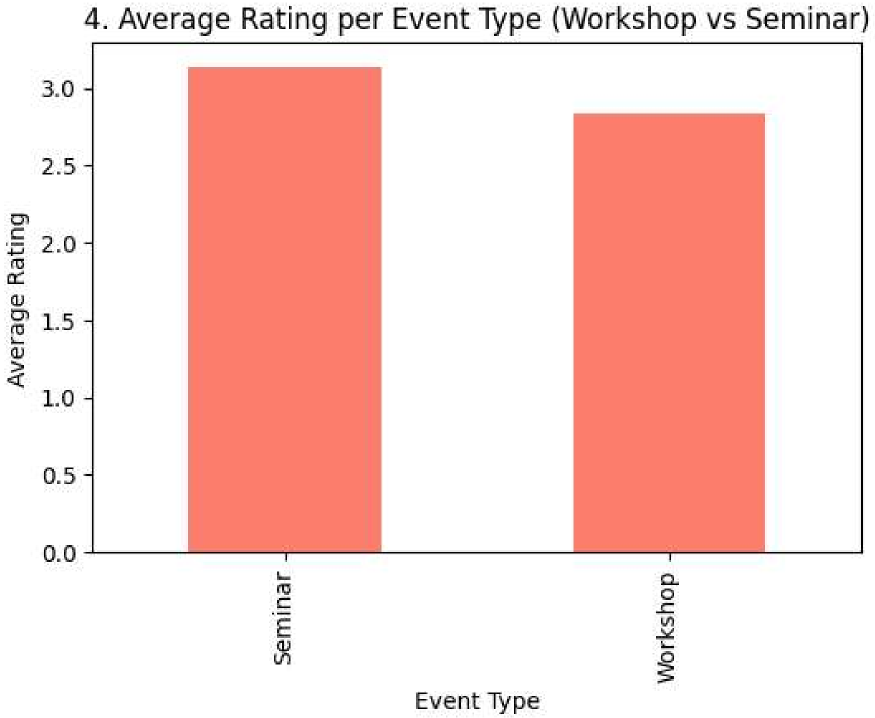
```
#Average Rating per Event
plt.figure(figsize=(10,5))
df.groupby('Event Name')['Rating'].mean().sort_values().plot(kind='barh', color='skyblue')
plt.title("2. Average Rating per Event")
plt.xlabel("Average Rating")
plt.show()
```



```
#Average Rating per Department
plt.figure(figsize=(8,4))
df.groupby('Department')['Rating'].mean().sort_values().plot(kind='bar', color='lightgreen')
plt.title("3. Average Rating per Department")
plt.ylabel("Average Rating")
plt.show()
```

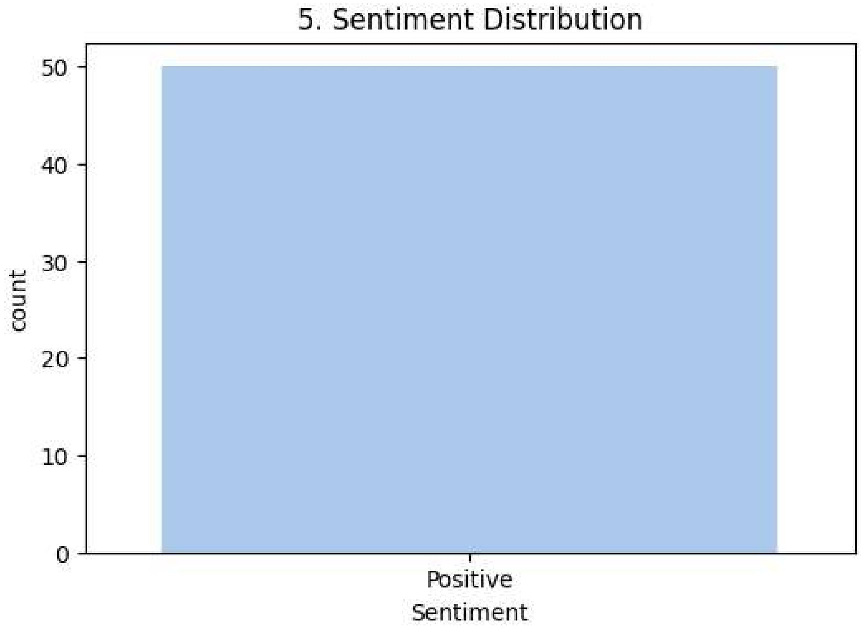


```
#Average Rating per Event Type
plt.figure(figsize=(6,4))
df.groupby('Event Type')['Rating'].mean().plot(kind='bar', color='salmon')
plt.title("4. Average Rating per Event Type (Workshop vs Seminar)")
plt.ylabel("Average Rating")
plt.show()
```

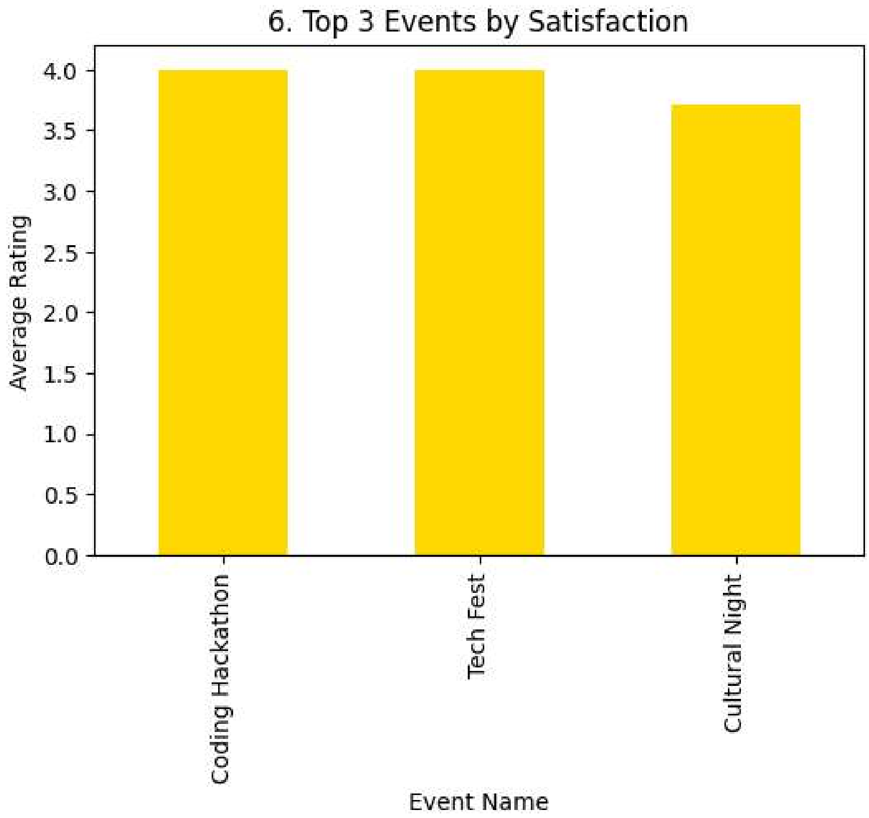


```
#Sentiment Distribution
plt.figure(figsize=(6,4))
sns.countplot(x='Sentiment', data=df, palette='pastel')
plt.title("5. Sentiment Distribution")
plt.show()
```

```
/tmp/ipython-input-3230687926.py:3: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x

  sns.countplot(x='Sentiment', data=df, palette='pastel')
```



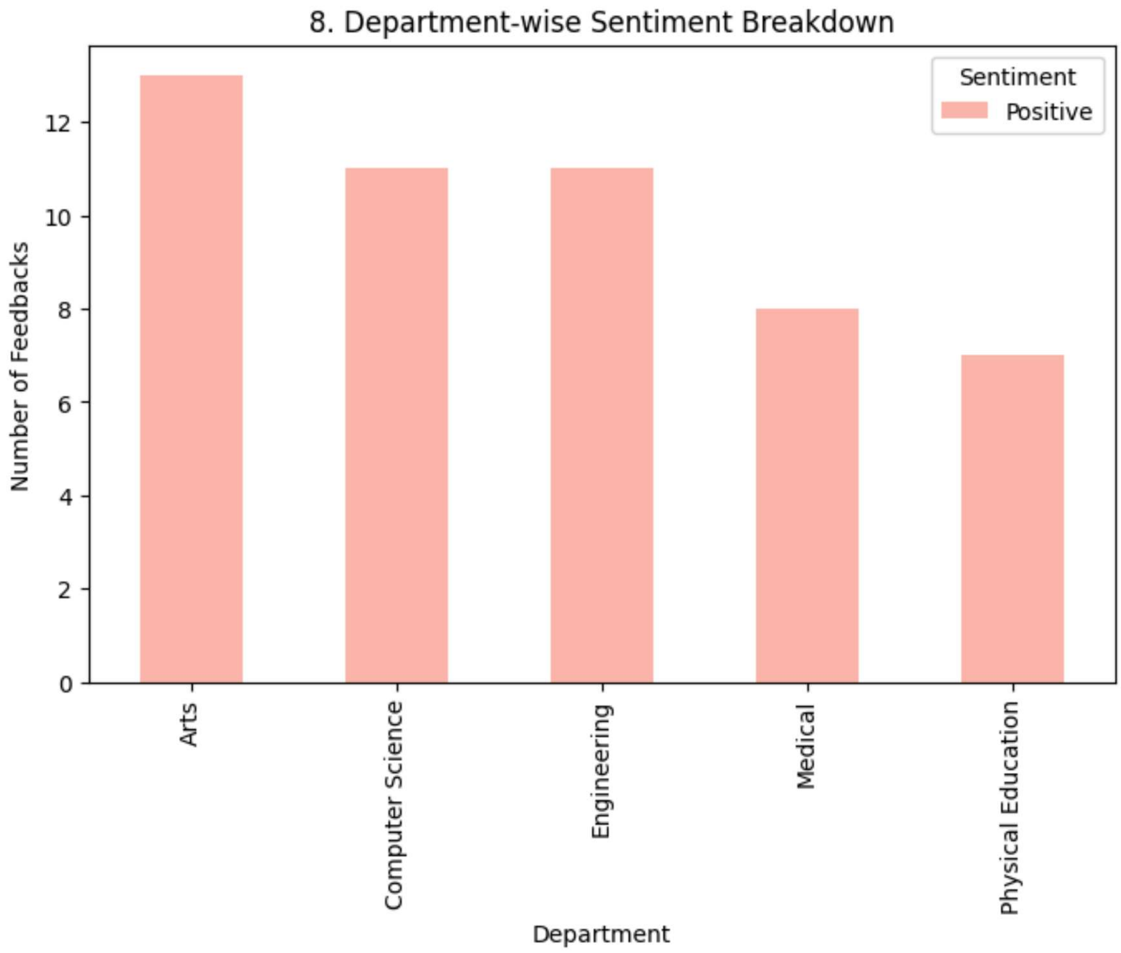
```
#Top 3 Events by Satisfaction
plt.figure(figsize=(6,4))
top3_events.plot(kind='bar', color='gold')
plt.title("6. Top 3 Events by Satisfaction")
plt.ylabel("Average Rating")
plt.show()
```



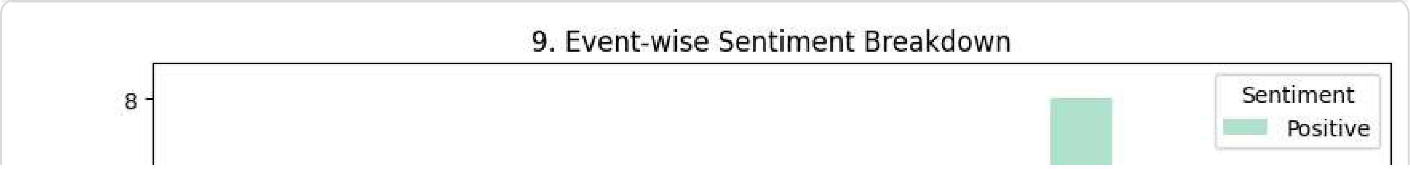
```
#Word Cloud for Common Complaints
negative_comments = " ".join(df[df['Sentiment'] != 'Positive']['Feedback'])
if negative_comments.strip():
    wordcloud = WordCloud(width=800, height=400, background_color='white').generate(negative_comment
    plt.figure(figsize=(10,5))
    plt.imshow(wordcloud, interpolation='bilinear')
    plt.axis('off')
    plt.title("7. Word Cloud - Common Complaints / Neutral Feedback")
    plt.show()
else:
    print("7. No negative or neutral comments found for word cloud.")
```

```
7. No negative or neutral comments found for word cloud.
```

```
#Department-wise Sentiment Breakdown
dept_sentiment = df.groupby(['Department','Sentiment']).size().unstack(fill_value=0)
dept_sentiment.plot(kind='bar', stacked=True, figsize=(8,5), colormap='Pastel1')
plt.title("8. Department-wise Sentiment Breakdown")
plt.ylabel("Number of Feedbacks")
plt.show()
```



```
# Event-wise Sentiment Breakdown
event_sentiment = df.groupby(['Event Name','Sentiment']).size().unstack(fill_value=0)
event_sentiment.plot(kind='bar', stacked=True, figsize=(10,6), colormap='Pastel2')
plt.title("9. Event-wise Sentiment Breakdown")
plt.ylabel("Number of Feedbacks")
plt.show()
```


9. Event-wise Sentiment Breakdown
8
Sentiment
Positive