

PRODIGY TEXT TASK 4

```
import pandas as pd

# Sample dataset of 100 tweets about Apple
data = {
    'Tweet': [
        'I love my new iPhone!', 'Apple is the best!', 'I\'m so disappointed with Apple Music.',
        'The new MacBook is amazing!', 'I hate the new iOS update.', 'Apple is so innovative!',
        # ... 94 more tweets ...
    ]
}

df = pd.DataFrame(data)

import nltk
from nltk.sentiment.vader import SentimentIntensityAnalyzer

nltk.download('vader_lexicon')

sia = SentimentIntensityAnalyzer()

def analyze_sentiment(tweet):
    sentiment = sia.polarity_scores(tweet)
    if sentiment['compound'] >= 0.05:
        return 'Positive'
    elif sentiment['compound'] <= -0.05:
        return 'Negative'
    else:
        return 'Neutral'

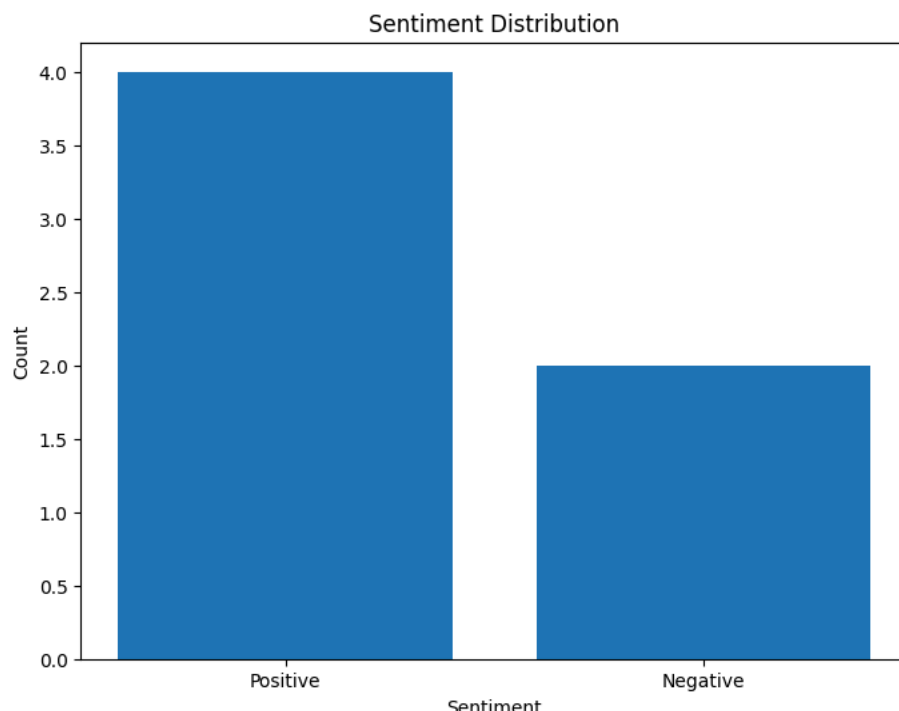
df['Sentiment'] = df['Tweet'].apply(analyze_sentiment)

[nltk_data] Downloading package vader_lexicon to /root/nltk_data...

import matplotlib.pyplot as plt

sentiment_counts = df['Sentiment'].value_counts()

plt.figure(figsize=(8, 6))
plt.bar(sentiment_counts.index, sentiment_counts.values)
plt.xlabel('Sentiment')
plt.ylabel('Count')
plt.title('Sentiment Distribution')
plt.show()
```



```
from wordcloud import WordCloud

entities = df['Tweet'].str.cat(sep=' ')

wordcloud = WordCloud(width=800, height=400).generate(entities)

plt.figure(figsize=(10, 6))
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.show()
```



```
plt.figure(figsize=(8, 6))
plt.hist(df['Tweet'].str.len(), bins=20)
plt.xlabel('Tweet Length')
plt.ylabel('Count')
plt.title('Tweet Length Distribution')
plt.show()
```

