Task no 4

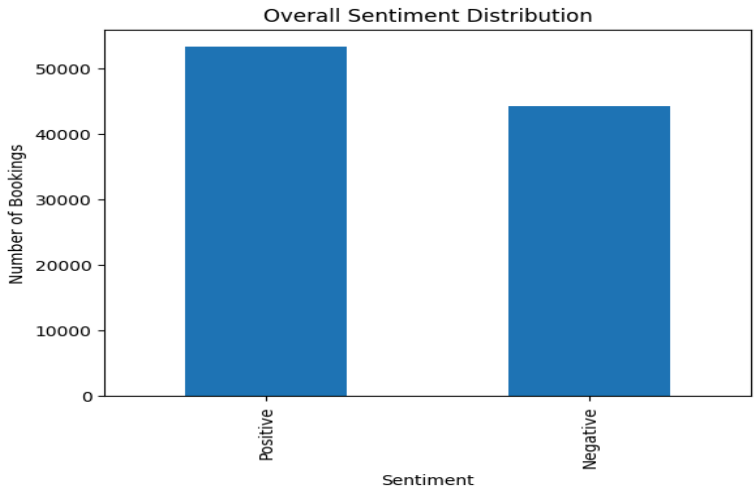
Task-04 :Analyze and visualize sentiment patterns in social media data to understand public opinion and attitudes towards specific topics or brands.

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

# Map reservation status to sentiment
sentiment_map = {
    'Check-Out': 'Positive',
    'Canceled': 'Negative',
    'No-Show': 'Negative'
}

data['Sentiment'] = data['reservation_status'].map(sentiment_map)
```

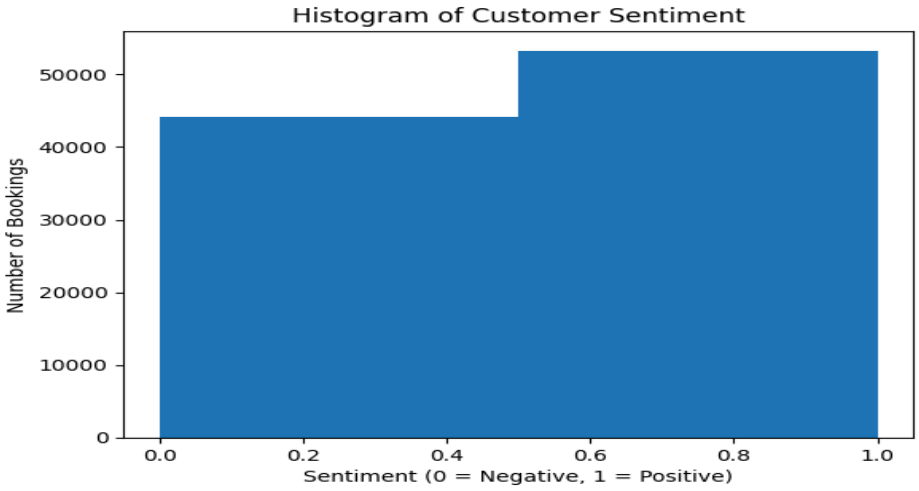
```
plt.figure()
data['Sentiment'].value_counts().plot(kind='bar')
plt.xlabel('Sentiment')
plt.ylabel('Number of Bookings')
plt.title('Overall Sentiment Distribution')
plt.show()
```




```
import matplotlib.pyplot as plt

# Encode sentiment
sentiment_numeric = data['Sentiment'].map({'Positive': 1, 'Negative': 0})

plt.figure()
plt.hist(sentiment_numeric, bins=2)
plt.xlabel('Sentiment (0 = Negative, 1 = Positive)')
plt.ylabel('Number of Bookings')
plt.title('Histogram of Customer Sentiment')
plt.show()
```




```
sentiment_counts = data['Sentiment'].value_counts()

plt.figure()
plt.pie(sentiment_counts, labels=sentiment_counts.index, autopct='%1.1f%%')
plt.title('Customer Sentiment Distribution')
plt.show()
```