Task 4

Analyze and visualize sentiment patterns in social media data to understand public opinion and attitudes towards specific topics or brands

Step 1: Import Required Libraries

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from textblob import TextBlob
```

Step 2: Load the Pizza Dataset

```
data=pd.read_csv("/content/pizza - pizza.csv", engine='python', on_bad_lines='warn')
data.head(5)
```

```
/tmp/ipython-input-4027435598.py:1: ParserWarning: Skipping line 6590: unexpected end of data

  data=pd.read_csv("/content/pizza - pizza.csv", engine='python', on_bad_lines='warn')
```

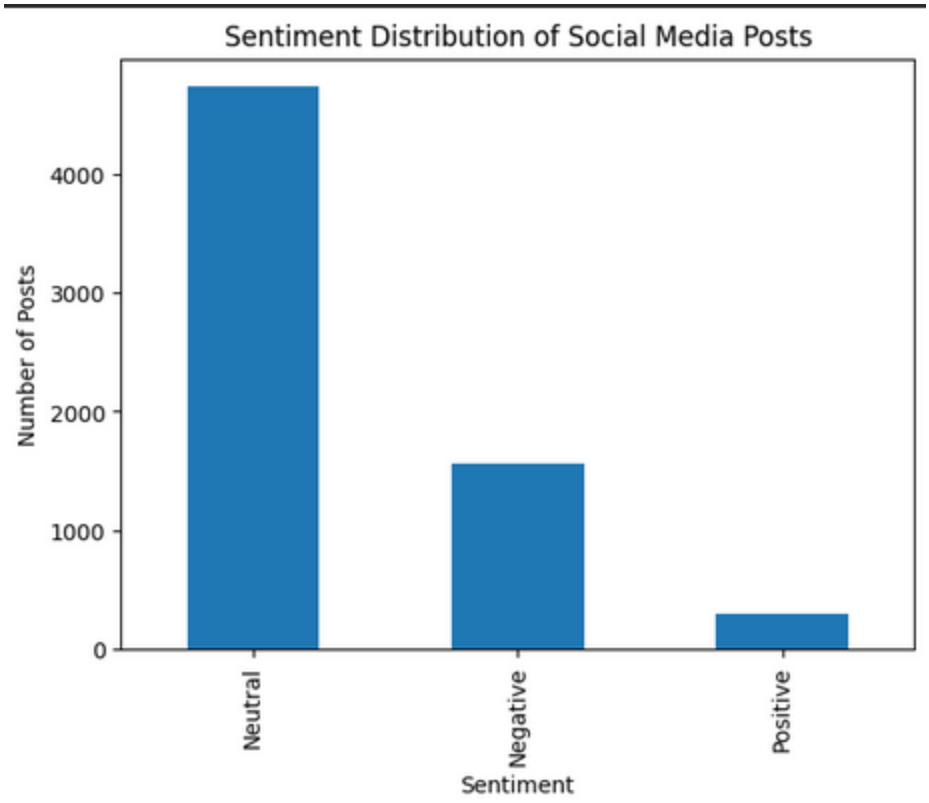
	order_details_id	order_id	pizza_id	quantity	order_date	order_time	unit_price	total_price	pizza_size	pizza_category	pizza_ingredients	pizza_name
0	1	1	hawaiian_m	1	1/1/2015	11:38:36	13.25	13.25	M	Classic	Sliced Ham, Pineapple, Mozzarella Cheese	The Hawaiian Pizza
1	2	2	classic_dlx_m	1	1/1/2015	11:57:40	16.00	16.00	M	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers,...	The Classic Deluxe Pizza
2	3	2	five_cheese_l	1	1/1/2015	11:57:40	18.50	18.50	L	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked Go...	The Five Cheese Pizza
3	4	2	ital_supr_l	1	1/1/2015	11:57:40	20.75	20.75	L	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Oni...	The Italian Supreme Pizza
4	5	2	mexicana_m	1	1/1/2015	11:57:40	16.00	16.00	M	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red O...	The Mexicana Pizza

Step 3:Sentiment Analysis using TextBold

```
def get_sentiment(text):
    polarity = TextBlob(text).sentiment.polarity
    if polarity > 0:
        return "Positive"
    elif polarity < 0:
        return "Negative"
    else:
        return "Neutral"
data['sentiment'] = data['pizza_name'].apply(get_sentiment)
```

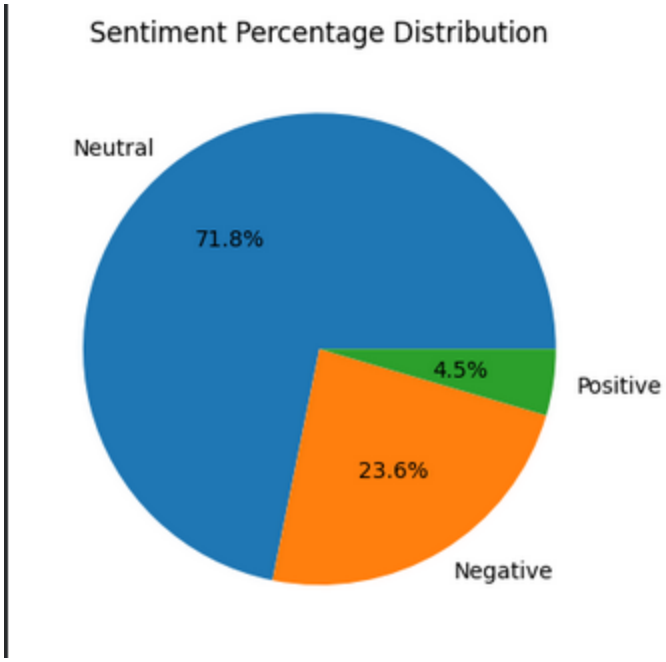
Step 4:Sentiment Distribution plots

```
plt.figure()
data['sentiment'].value_counts().plot(kind='bar')
plt.xlabel("Sentiment")
plt.ylabel("Number of Posts")
plt.title("Sentiment Distribution of Social Media Posts")
plt.show()
```




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

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



Sentiment by Brand / Topic (Optional Advanced)

```
plt.figure()
sns.countplot(x='pizza_category', hue='sentiment', data=data)
plt.xlabel("Pizza Category")
plt.ylabel("Count")
plt.title("Sentiment Analysis by Pizza Category")
plt.show()
```