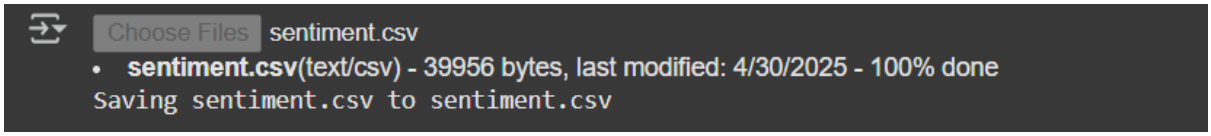
1.UPLOADING FILES:

```
from google.colab import files
uploaded = files.upload()
```



2. LOAD AND DISPLAY BASIC INFO:

```
import pandas as pd
df = pd.read_csv("sentiment.csv")
```

3.DATA EXPLORATION

```
df.head()
```

	Unnamed: 0.1	Unnamed: 0	Text	Sentiment	Timestamp	User	Platform	Hashtags	Retweets	Likes	Country	Year	Month	Day	Hour
0	0	0	Enjoying a beautiful day at the park! ...	Positive	15-01-2023 12:30	User123	Twitter	#Nature #Park	15	30	USA	2023	1	15	12
1	1	1	Traffic was terrible this morning. ...	Negative	15-01-2023 08:45	CommuterX	Twitter	#Traffic #Morning	5	10	Canada	2023	1	15	8
2	2	2	Just finished an amazing workout! 💪 ...	Positive	15-01-2023 15:45	FitnessFan	Instagram	#Fitness #Workout	20	40	USA	2023	1	15	15
3	3	3	Excited about the upcoming weekend getaway! ...	Positive	15-01-2023 18:20	AdventureX	Facebook	#Travel #Adventure	8	15	UK	2023	1	15	18
4	4	4	Trying out a new recipe for dinner tonight. ...	Neutral	15-01-2023 19:55	ChefCook	Instagram	#Cooking #Food	12	25	Australia	2023	1	15	19

```
print("Shape:", df.shape)
print("Columns:", df.columns.tolist())
df.info()
df.describe()
```

```
Shape: (732, 16)
Columns: ['Unnamed: 0.1', 'Unnamed: 0', 'Text', 'Sentiment', 'Timestamp', 'User', 'Platform', 'Hashtags', 'Retweets', 'Likes', 'Country', 'Year', 'Month', 'Day', 'Hour', 'Emotion']
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 732 entries, 0 to 731
Data columns (total 16 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   Unnamed: 0.1  732 non-null    int64
 1   Unnamed: 0    732 non-null    int64
 2   Text          732 non-null    object
 3   Sentiment     732 non-null    object
 4   Timestamp     732 non-null    object
 5   User          732 non-null    object
 6   Platform      732 non-null    object
 7   Hashtags      732 non-null    object
 8   Retweets      732 non-null    int64
 9   Likes         732 non-null    int64
 10  Country       732 non-null    object
 11  Year          732 non-null    int64
 12  Month         732 non-null    int64
 13  Day           732 non-null    int64
 14  Hour          732 non-null    int64
 15  Emotion       732 non-null    object
dtypes: int64(8), object(8)
memory usage: 91.6+ KB
```

	Unnamed: 0.1	Unnamed: 0	Retweets	Likes	Year	Month	Day	Hour
count	732.000000	732.000000	732.000000	732.000000	732.000000	732.000000	732.000000	732.000000
mean	366.464481	369.740437	21.508197	42.901639	2020.471311	6.122951	15.497268	15.521858
std	211.513936	212.428936	7.061286	14.089848	2.802285	3.411763	8.474553	4.113414
min	0.000000	0.000000	5.000000	10.000000	2010.000000	1.000000	1.000000	0.000000
25%	183.750000	185.750000	17.750000	34.750000	2019.000000	3.000000	9.000000	13.000000
50%	366.500000	370.500000	22.000000	43.000000	2021.000000	6.000000	15.000000	16.000000
75%	549.250000	553.250000	25.000000	50.000000	2023.000000	9.000000	22.000000	19.000000
max	732.000000	736.000000	40.000000	80.000000	2023.000000	12.000000	31.000000	23.000000

4.Check for Missing Values and Duplicates

```
print(df.isnull().sum())
df = df.dropna(subset=['Text'])
def get_emotion(text):
    score = sia.polarity_scores(text)['compound']
    if score >= 0.05:
        return "Positive"
    elif score <= -0.05:
        return "Negative"
    else:
        return "Neutral"
df['Emotion'] = df['Text'].apply(get_emotion)
df.head()
```

```
Unnamed: 0.1    0
Unnamed: 0      0
Text            0
Sentiment       0
Timestamp       0
User            0
Platform        0
Hashtags        0
Retweets        0
Likes           0
Country         0
Year            0
Month           0
Day             0
Hour            0
dtype: int64
```

	Unnamed: 0.1	Unnamed: 0	Text	Sentiment	Timestamp	User	Platform	Hashtags	Retweets	Likes	Country	Year	Month	Day	Hour	Emotion
0	0	0	Enjoying a beautiful day at the park! ...	Positive	15-01-2023 12:30	User123	Twitter	#Nature #Park	15	30	USA	2023	1	15	12	Positive
1	1	1	Traffic was terrible this morning. ...	Negative	15-01-2023 08:45	CommuterX	Twitter	#Traffic #Morning	5	10	Canada	2023	1	15	8	Negative
2	2	2	Just finished an amazing workout! 💪 ...	Positive	15-01-2023 15:45	FitnessFan	Instagram	#Fitness #Workout	20	40	USA	2023	1	15	15	Positive
3	3	3	Excited about the upcoming weekend getaway! ...	Positive	15-01-2023 18:20	AdventureX	Facebook	#Travel #Adventure	8	15	UK	2023	1	15	18	Positive
4	4	4	Trying out a new recipe for dinner tonight. ...	Neutral	15-01-2023 19:55	ChefCook	Instagram	#Cooking #Food	12	25	Australia	2023	1	15	19	Neutral

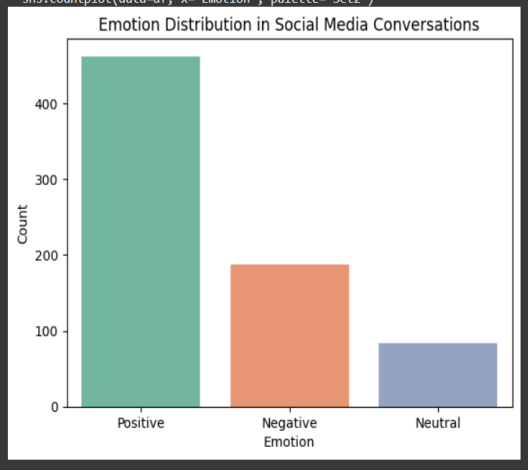
5.VISUALIZE A FEW FEATURES

```
import seaborn as sns
import matplotlib.pyplot as plt
sns.countplot(data=df, x='Emotion', palette='Set2')
plt.title('Emotion Distribution in Social Media Conversations')
plt.xlabel('Emotion')
plt.ylabel('Count')
plt.show()
```

```
<ipython-input-12-2b2b0ec8f331>:1: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.14.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

  sns.countplot(data=df, x='Emotion', palette='Set2')
```

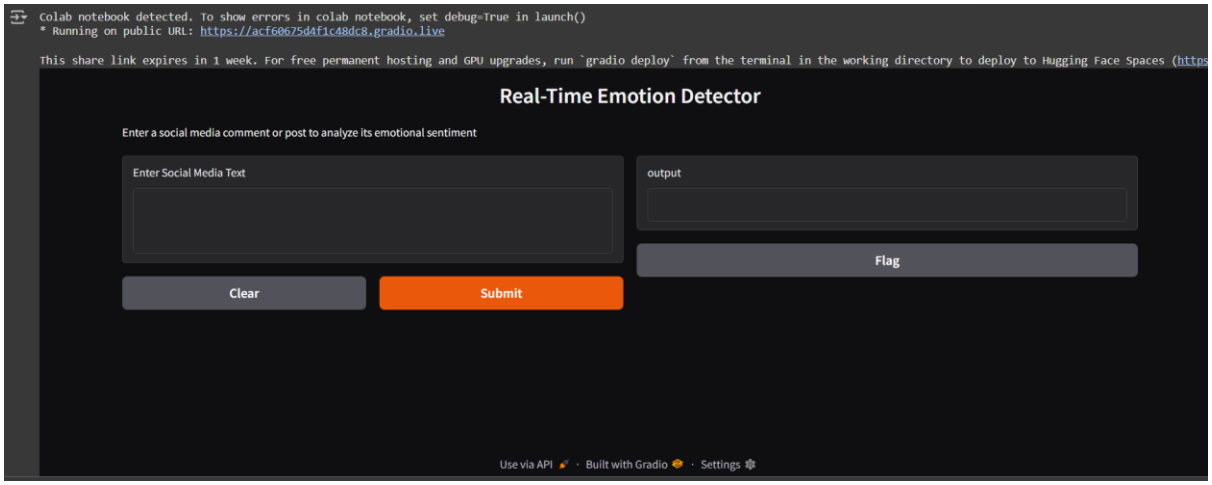


6. Real-Time Emotion Detector

```
def analyze_input(text):
    score = sia.polarity_scores(text)['compound']
    if score >= 0.05:
        return "Positive"
    elif score <= -0.05:
        return "Negative"
    else:
        return "Neutral"


gr.Interface(
    fn=analyze_input,
    inputs=gr.Textbox(lines=3, label="Enter Social Media Text"),
    outputs="text",
    title="Real-Time Emotion Detector",
    description="Enter a social media comment or post to analyze its emotional sentiment"
```

).launch(share=True)



7.Deployment-Building an Interactive App

!pip install gradio