FA24: CMPE-272 Sec 48 - Enterprise SW Plat

Assignment 1 : In-class: Programming with LLMs

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1.1.Takes a text string as input.
2.Outputs a message about the sentiment of the text string, whether it's "Positive", "Negative" or "Neutral".

```python
from textblob import TextBlob

def analyze_sentiment(text):
    blob = TextBlob(text)
    sentiment_score = blob.sentiment.polarity

    if sentiment_score > 0:
        return "Positive"
    elif sentiment_score < 0:
        return "Negative"
    else:
        return "Neutral"


texts = [
        "I Like Enterprise Software Course",
        "I hate this fall. It's too sunny today",
        "It's okay, we all can complete assignments by deadline !",
    ]

for text in texts:
        print(f"Text: {text}")
        print(f"Sentiment: --  {analyze_sentiment(text)}")
        print('------------')

if __name__ == "__main__":
    text = input("Enter a text string for sentiment analysis: ")
    sentiment = analyze_sentiment(text)
    print(f"The sentiment of the text is: {sentiment}")
```

Output :

```
akshashe@Akshays-MacBook-Air sentiment_analysis % python3 sentiment_analysis.py
Text: I Like Enterprise Software Course
Sentiment: --  Neutral
------------
Text: I hate this fall. It's too sunny today
Sentiment: --  Negative
------------
Text: It's okay, we all can complete assignments by deadline !
Sentiment: --  Positive
------------
Enter a text string for sentiment analysis: i like SJSU campus
The sentiment of the text is: Neutral
```

2.Include the entire related LLM (ChatGPT) session history in your submission for this assignment, including all the prompts you used.

Link :

https://chatgpt.com/share/d1fbf7d2-baad-4d0f-a262-2f02d36fcccb

Sentiment Analysis Guide

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3. Try Testing it on a sentiment dataset.

1.Downloaded the dataset from kaggle.

2.test_dataset.py

```python
test_dataset.py > ...
    import pandas as pd
    from sentiment_analysis import analyze_sentiment

    # Absolute path to your CSV file
    dataset_file = 'sentiment_analysis.csv'

    encodings = ['utf-8', 'latin1', 'iso-8859-1', 'utf-16']

    for encoding in encodings:
        try:
            data = pd.read_csv(dataset_file, encoding=encoding)
            print(f"Successfully read the file with encoding: {encoding}")
            dataset_path = 'sentiment_analysis.csv'
            df = pd.read_csv(dataset_file, encoding=encoding)

            if 'text' not in df.columns:
                print("The dataset does not contain a 'text' column.")
                break
            df['text'] = df['text'].astype(str)

            df['NEW_Sentiment'] = df['text'].apply(analyze_sentiment)
            print(df.head())
            df.to_csv('sentiment_analysis_results.csv', index=False)
            print(data.head())  # Print the first few rows to verify
            break
        except UnicodeDecodeError:
            print(f"Encoding {encoding} failed.")
        except Exception as e:
            print(f"An error occurred: {e}")
```

3. Output : The last column ' NEW_Sentiment' is added to the dataset.

```
Akshashe@Akshays-MacBook-Air sentiment_analysis % python3 test_dataset.py
Text: I Like Enterprise Software Course
Sentiment: -- Neutral
------------
Text: I hate this fall. It's too sunny today
Sentiment: -- Negative
------------
Text: It's okay, we all can complete assignments by deadline !
Sentiment: -- Positive
------------
Encoding utf-8 failed.
Successfully read the file with encoding: latin1
      textID                                              text sentiment Time of Tweet Age of User      Country  Population -2020  Land Area (Km²)  Density (P/Km²) NEW_Sentiment
0  f87dea47db  Last session of the day  http://twitpic.com/67ezh   neutral       morning        0-20  Afghanistan       38928346.0        652860.0            60.0       Neutral
1  96d74cb729    Shanghai is also really exciting (precisely -...  positive          noon       21-30      Albania        2877797.0         27400.0           105.0      Positive
2  eee518ae67  Recession hit Veronique Branquinho, she has to...  negative         night       31-45      Algeria       43851044.0       2381740.0            18.0       Neutral
3  01082688c6                                        happy bday!  positive       morning       46-60      Andorra          77265.0           470.0           164.0      Positive
4  33987a8ee5              http://twitpic.com/4w75p - I like it!!  positive          noon       60-70       Angola       32866272.0       1246700.0            26.0       Neutral
      textID                                              text sentiment Time of Tweet Age of User      Country  Population -2020  Land Area (Km²)  Density (P/Km²)
0  f87dea47db  Last session of the day  http://twitpic.com/67ezh   neutral       morning        0-20  Afghanistan       38928346.0        652860.0            60.0
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3  01082688c6                                        happy bday!  positive       morning       46-60      Andorra          77265.0           470.0           164.0
4  33987a8ee5              http://twitpic.com/4w75p - I like it!!  positive          noon       60-70       Angola       32866272.0       1246700.0            26.0
```

4. GitHub repo Link:

https://github.com/ananya101001/SJSU_Enterprise_software_platform_CMPE_272

Extra Credit:

- II Use a language model to help your team solve HackerRank coding problems, in the language of your choice:

I could only solve easy and medium problems.

Easy:

```python
if __name__ == '__main__':
    a = int(input())
    b = int(input())

    print(a+b)
    print(a-b)
    print(a*b)
```

Medium:

Change Theme   Language Pypy 3

```python
1
2   #You are given a string . Suppose a character '' occurs consecutively  times in the string
    Replace these consecutive occurrences of the character '' with  in the string.
3
4   input_string=input()
5   count=1
6   j=0
7   result=[]
8   for i in range(1,len(input_string)):
9       j=i-1
10      if input_string[i]==input_string[j]:
11          count+=1
12      else:
13          result.append((count,input_string[j]))
14          count=1
15  result.append((count, input_string[-1]))
16  print(" ".join(f"({x[0]}, {x[1]})" for x in result))
```

Done !