



SUPERIOR UNIVERSITY

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Class:

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Section:

4B

Subject:

Programming for Artificial Intelligence

Submitted to:

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TASK 9

Natural Language Processing

Sentiment Analysis using Vader

Objective:

The purpose of this mini-project is to perform **sentiment analysis** on user-provided sentences using the **VADER sentiment analyzer**. The system classifies each input sentence as **Positive**, **Negative**, or **Neutral** based on sentiment scores.

Tools Used:

- **Python 3.x**
- **VADER SentimentIntensityAnalyzer** module (from vaderSentiment)
- **Visual Studio Code** (IDE)

Code:

```
# import SentimentIntensityAnalyzer class from vaderSentiment.vaderSentiment module.
from vaderSentiment.vaderSentiment import SentimentIntensityAnalyzer

# Function to print sentiments of the sentence.
def sentiment_scores(sentence):

    # Create a SentimentIntensityAnalyzer object.
    sid_obj = SentimentIntensityAnalyzer()

    # polarity_scores method of SentimentIntensityAnalyzer object gives a sentiment dictionary.
    # which contains pos, neg, neu, and compound scores.
    sentiment_dict = sid_obj.polarity_scores(sentence)

    print("Overall sentiment dictionary is : ", sentiment_dict)
    print("Sentence was rated as ", sentiment_dict['neg']*100, "% Negative")
    print("Sentence was rated as ", sentiment_dict['neu']*100, "% Neutral")
    print("Sentence was rated as ", sentiment_dict['pos']*100, "% Positive")

    print("Sentence Overall Rated As", end=" ")

    # Decide sentiment as positive, negative, or neutral
```

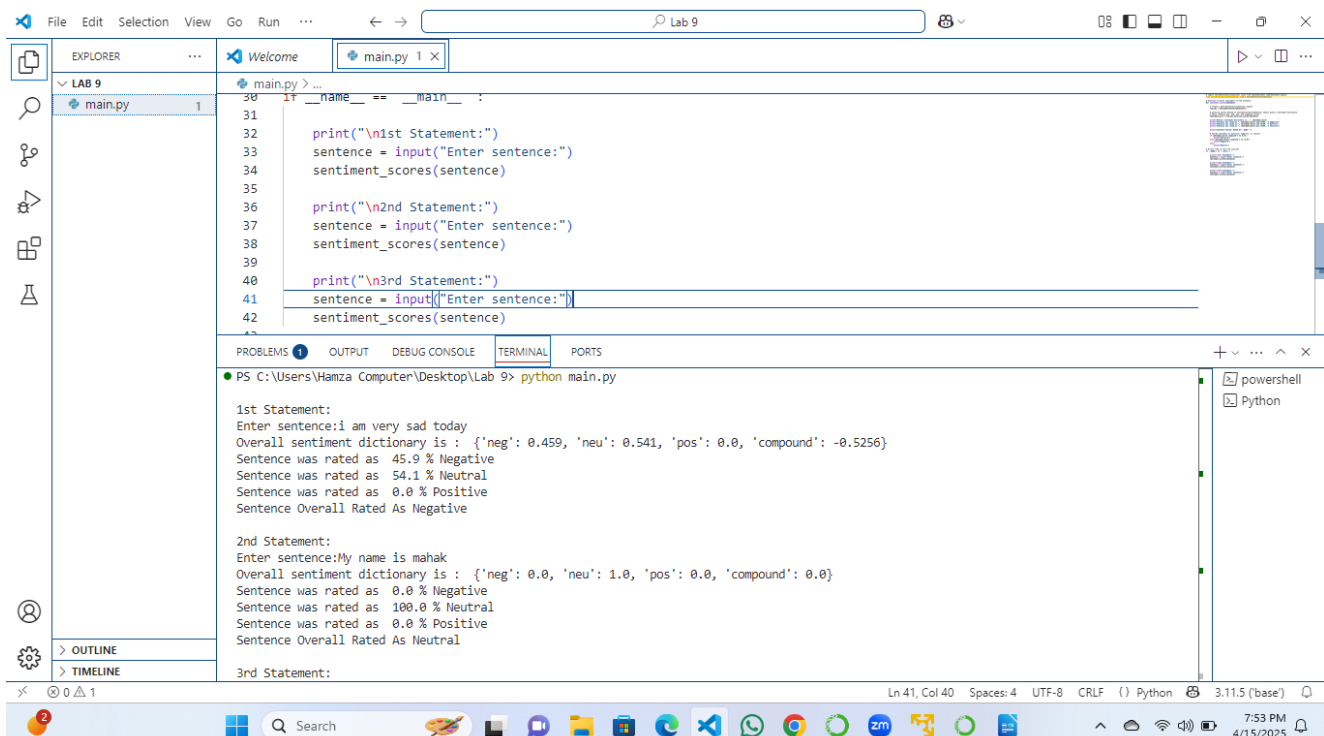
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```
if sentiment_dict['compound'] >= 0.05 :  
    print("Positive")  
elif sentiment_dict['compound'] <= -0.05 :  
    print("Negative")  
else :  
    print("Neutral")
```

Driver code to test the function

```
if __name__ == "__main__":  
  
    print("\n1st Statement:")  
    sentence = input("Enter sentence:")  
    sentiment_scores(sentence)  
  
    print("\n2nd Statement:")  
    sentence = input("Enter sentence:")  
    sentiment_scores(sentence)  
  
    print("\n3rd Statement:")  
    sentence = input("Enter sentence:")  
    sentiment_scores(sentence)
```

Output:



The screenshot shows a Visual Studio Code editor window with a file named 'main.py' open. The code in the editor is the same as shown in the previous blocks. The terminal at the bottom shows the execution of the script. The output for the first statement is:

```
1st Statement:  
Enter sentence:i am very sad today  
Overall sentiment dictionary is : {'neg': 0.459, 'neu': 0.541, 'pos': 0.0, 'compound': -0.5256}  
Sentence was rated as 45.9 % Negative  
Sentence was rated as 54.1 % Neutral  
Sentence was rated as 0.0 % Positive  
Sentence Overall Rated As Negative
```

The output for the second statement is:

```
2nd Statement:  
Enter sentence:My name is mahak  
Overall sentiment dictionary is : {'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}  
Sentence was rated as 0.0 % Negative  
Sentence was rated as 100.0 % Neutral  
Sentence was rated as 0.0 % Positive  
Sentence Overall Rated As Neutral
```

The output for the third statement is:

```
3rd Statement:
```

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The screenshot displays a Visual Studio Code (VS Code) environment. The Explorer pane on the left shows a project named 'LAB 9' with a file 'main.py'. The main editor window shows the code for 'main.py' with the following content:

```
30 if __name__ == '__main__':
31
32     print("\n1st Statement:")
33     sentence = input("Enter sentence:")
34     sentiment_scores(sentence)
35
36     print("\n2nd Statement:")
37     sentence = input("Enter sentence:")
38     sentiment_scores(sentence)
39
40     print("\n3rd Statement:")
41     sentence = input("Enter sentence:")
42     sentiment_scores(sentence)
```

The TERMINAL pane at the bottom shows the output of the script:

```
Sentence was rated as 0.0 % Positive
Sentence Overall Rated As Negative

2nd Statement:
Enter sentence:My name is mahak
Overall sentiment dictionary is : {'neg': 0.0, 'neu': 1.0, 'pos': 0.0, 'compound': 0.0}
Sentence was rated as 0.0 % Negative
Sentence was rated as 100.0 % Neutral
Sentence was rated as 0.0 % Positive
Sentence Overall Rated As Neutral

3rd Statement:
Enter sentence:You are a good person
Overall sentiment dictionary is : {'neg': 0.0, 'neu': 0.58, 'pos': 0.42, 'compound': 0.4404}
Sentence was rated as 0.0 % Negative
Sentence was rated as 57.99999999999999 % Neutral
Sentence was rated as 42.0 % Positive
Sentence Overall Rated As Positive
```

The status bar at the bottom indicates the file is 'main.py' at line 41, column 40, using UTF-8 encoding and CRLF line endings. The Python version is 3.11.5 (base).