Aim: - Implement a Sentiment Analysis on linguistic data..

**Requirement: -**Python versions 3.7, 3.8, 3.9, 3.10 or 3.11, jupyter notebook

**Theory: -**

VADER (Valence Aware Dictionary for Sentiment Reasoning)

VADER's SentimentIntensityAnalyzer() takes in a string and returns a dictionary of scores in each of four categories:

negative neutral positive compound (computed by normalizing the scores above

The compound score is the sum of positive, negative & neutral scores which is then normalized between -1(most extreme negative) and +1 (most extreme positive). The more Compound score closer to +1, the higher the positivity of the text

```
!pip install nltk
```

```
import nltk
from nltk.sentiment.vader import SentimentIntensityAnalyzer

# Initialize the VADER sentiment analyzer
nltk.download('punkt')  # Download the required data
sia = SentimentIntensityAnalyzer()

# Example text
text = "I love this product! It's amazing."

# Get sentiment scores
sentiment_scores = sia.polarity_scores(text)
```

```python
# Interpret sentiment scores
if sentiment_scores['compound'] >= 0.05:
    sentiment = "Positive"
elif sentiment_scores['compound'] <= -0.05:
    sentiment = "Negative"
else:
    sentiment = "Neutral"

print("Sentiment:", sentiment)
print("Sentiment Scores:", sentiment_scores)
```

```
Sentiment: Positive
Sentiment Scores: {'neg': 0.0, 'neu': 0.266, 'pos': 0.734, 'compound': 0.8516}
[nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data]   Package punkt is already up-to-date!
```