Task 4: Sentiment Analysis

Performed by: Miju Akshaya P

Internship Domain: Data Analytics

Tools: Python, NLTK, TextBlob, VADER, Pandas

In [ ]:
```
!pip install pandas textblob vaderSentiment
```

In [2]:
```
import pandas as pd
from textblob import TextBlob
from vaderSentiment.vaderSentiment import SentimentIntensityAnalyzer
```

In [6]:
```
data = {
    'Review': [
        "I love this product! Works perfectly.",
        "This is the worst thing I've bought.",
        "It’s okay, not too bad, not too great.",
        "Absolutely amazing service!",
        "Terrible experience, will never buy again."
    ]
}

df = pd.DataFrame(data)
df
```

Out[6]:

	Review
0	I love this product! Works perfectly.
1	This is the worst thing I've bought.
2	It’s okay, not too bad, not too great.
3	Absolutely amazing service!
4	Terrible experience, will never buy again.

In [7]:
```
def get_sentiment(text):
    return TextBlob(text).sentiment.polarity

df['Polarity'] = df['Review'].apply(get_sentiment)

def classify_sentiment(score):
    if score > 0:
        return 'Positive'
    elif score < 0:
        return 'Negative'
    else:
        return 'Neutral'

df['Sentiment'] = df['Polarity'].apply(classify_sentiment)
df
```

Out[7]:

	Review	Polarity	Sentiment
0	I love this product! Works perfectly.	0.8125	Positive
1	This is the worst thing I've bought.	-1.0000	Negative
2	It’s okay, not too bad, not too great.	0.2000	Positive
3	Absolutely amazing service!	0.7500	Positive
4	Terrible experience, will never buy again.	-1.0000	Negative

In [8]:
```
df.to_csv("Sentiment_Analysis_Output.csv", index=False)
```

Insights:

- This project classifies text data into Positive, Negative, or Neutral categories.
- Helps in analyzing public opinion from sources like Amazon reviews.
- Can be used for improving marketing and customer service.