AI ASSSISTED CODING LAB TEST – 01

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BATCH : 05

DEPT : CSE-2

1.Question:

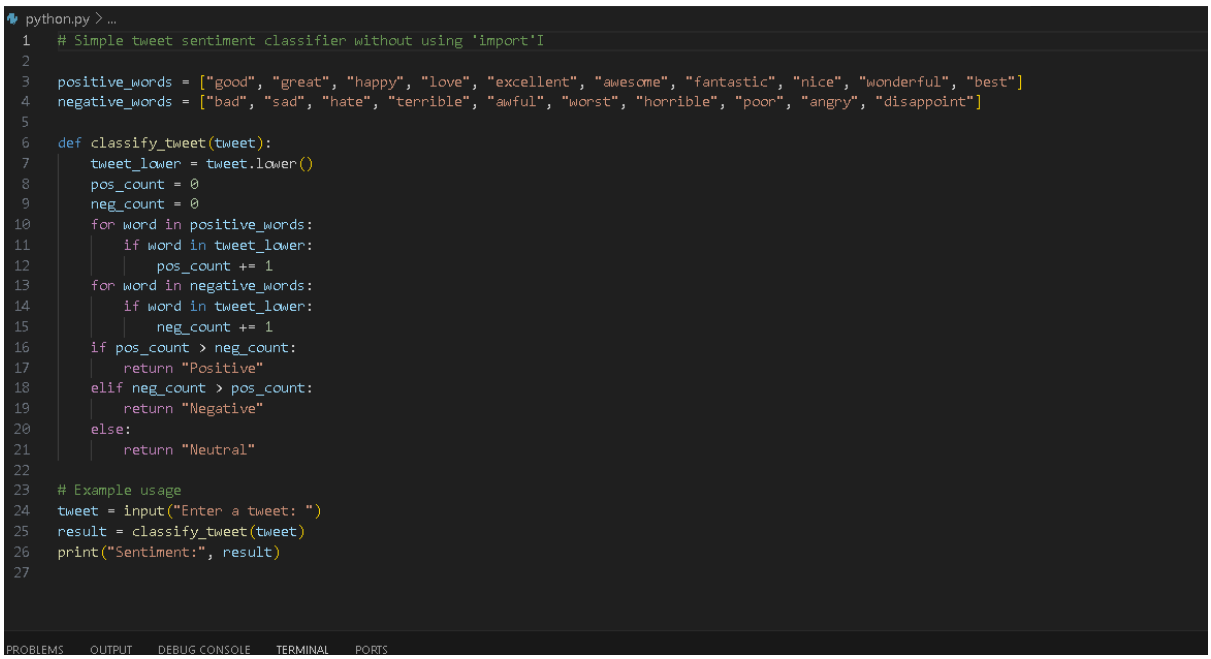
Task -01:

Write a zero-shot prompt to classify sentiment without any examples.

Prompt:

Write a python code to classify the sentiment as negative,neutral and positive without using import.

Code:



```python
# Simple tweet sentiment classifier without using 'import'I

positive_words = ["good", "great", "happy", "love", "excellent", "awesome", "fantastic", "nice", "wonderful", "best"]
negative_words = ["bad", "sad", "hate", "terrible", "awful", "worst", "horrible", "poor", "angry", "disappoint"]

def classify_tweet(tweet):
    tweet_lower = tweet.lower()
    pos_count = 0
    neg_count = 0
    for word in positive_words:
        if word in tweet_lower:
            pos_count += 1
    for word in negative_words:
        if word in tweet_lower:
            neg_count += 1
    if pos_count > neg_count:
        return "Positive"
    elif neg_count > pos_count:
        return "Negative"
    else:
        return "Neutral"

# Example usage
tweet = input("Enter a tweet: ")
result = classify_tweet(tweet)
print("Sentiment:", result)
```

Output:

```
PS C:\Users\nadhi\OneDrive\Desktop\WT> & C:/Users/nadhi/AppData/Local/Programs/Python/Python313/python.exe c:/Users/nadhi/OneDrive/Desktop/WT/python.py
Enter a tweet: I am very sad today
Sentiment: Negative
PS C:\Users\nadhi\OneDrive\Desktop\WT>
```

Observation:

1. The code implements a basic tweet sentiment classifier in Python without using any external libraries.
2. It defines two lists: one for positive words and one for negative words.
3. The classify_tweet function checks if any of these words appear in the input tweet (case-insensitive).
4. It counts the occurrences of positive and negative words in the tweet.
5. The sentiment is classified as "Positive", "Negative", or "Neutral" based on which count is higher.

Task -02:

Prompt-01:

Write Python code to sort a list of numbers.

Code:

python.py > ...

```python
# Sort a list of numbers in ascending order

numbers = [5, 2, 9, 1, 7, 3]
sorted_numbers = sorted(numbers)

print("Original list:", numbers)
print("Sorted list:", sorted_numbers)

```

Output:

```
PS C:\Users\nadhi\OneDrive\Desktop\WT> & C:/Users/nadhi/AppData/Local/Programs/Python/Python313/python.exe c:/Users/nadhi/O
neDrive/Desktop/WT/python.py
Original list: [5, 2, 9, 1, 7, 3]
Sorted list: [1, 2, 3, 5, 7, 9]
PS C:\Users\nadhi\OneDrive\Desktop\WT>
```

Observation:

1. The code sorts a list of numbers in ascending order using Python's built-in sorted() function.
2. It prints both the original and the sorted lists.
3. The original list remains unchanged after sorting.

Prompt-02:

You are an AI coding assistant.

Write Python code for a beginner-level student that sorts a list of integers in ascending order.

Include comments explaining each step, use a function, and also show an example of how to call the function with a example.

Code:

```
ython.py > ...
# Function to sort a list of integers in ascending order
def sort_numbers(numbers):
    """
    Sorts a list of integers in ascending order.

    Args:
        numbers (list): A list of integers.

    Returns:
        list: A new list with the integers sorted in ascending order.
    """
    # Use the built-in sorted() function to sort the list
    sorted_list = sorted(numbers)
    return sorted_list

# Example usage:
sample_list = [5, 2, 9, 1, 7]
# Call the function and store the result
sorted_sample = sort_numbers(sample_list)
# Print the sorted list
print("Original list:", sample_list)
print("Sorted list:", sorted_sample)
```

Output:

Observation:

1. The code defines a function to sort a list of integers in ascending order.
2. It uses Python's built-in sorted() function for sorting.
3. The function returns a new sorted list, leaving the original list unchanged.
4. An example list sample_list is provided for demonstration.
5. The sorted result is stored in sorted_sample.
6. Both the original and sorted lists are printed to show the effect of sorting.

2.Question:

Task -01:

Prompt-01:

You are an AI coding assistant. Write Python code to classify tweets into Positive, Negative, or Neutral sentiment using a simple rule-based approach.

Example:

Tweet: "The food was absolutely delicious!" → Positive

Code:

```
Users > akshi > first.py > ...
def classify_tweet(tweet: str) -> str:
    # One-shot example
    example_input = "I love this new phone, it's amazing!"
    example_output = "Positive"

    # Use keywords from the example to guide classification
    positive_keywords = ['love', 'amazing']
    negative_keywords = ['hate', 'terrible', 'bad', 'awful']

    tweet_lower = tweet.lower()
    if any(word in tweet_lower for word in positive_keywords):
        return "Positive"
    elif any(word in tweet_lower for word in negative_keywords):
        return "Negative"
    else:
        return "Neutral"

# One-shot example
print('Input: "I love this new phone, it's amazing!"')
print("Output:", classify_tweet("I love this new phone, it's amazing!"))

# Classify a new tweet
new_tweet = "The weather is bad today."
print('Input:', f'"{new_tweet}"')
print("Output:", classify_tweet(new_tweet))
```

Output:

```
[Running] python -u "c:\Users\akshi\first.py"
Input: "I love this new phone, it's amazing!"
Output: Positive
Input: "The weather is bad today."
Output: Negative

[Done] exited with code=0 in 0.093 seconds
```

Observation:

- Works only for tweets containing the predefined keywords.
- If a tweet has mixed words (both positive and negative), only the first match type (positive → negative) will decide.
- The predefined examples dictionary is not used in classification, it's just illustrative.

Prompt-02:

Write Python code that classifies tweets as Positive, Negative, or Neutral.

Use simple if-else conditions with predefined example tweets:

Examples:

Tweet: "The food was absolutely delicious!" → Positive

Tweet: "I don't like this new update at all." → Negative

Tweet: "I will be attending the meeting tomorrow." → Neutral

Tweet: "The movie was okay, not too bad." → Neutral

Now classify this tweet:

"I am so tired of waiting in long lines."

Code:

```python
hon.py > ...
# Predefined example tweets and their sentiments
examples = {
    "The food was absolutely delicious!": "Positive",
    "I don't like this new update at all.": "Negative",
    "I will be attending the meeting tomorrow.": "Neutral",
    "The movie was okay, not too bad.": "Neutral"
}

# Simple classification function using if-else and keywords
def classify_tweet(tweet):
    positive_keywords = ["delicious", "great", "amazing", "love", "wonderful", "happy"]
    negative_keywords = ["don't like", "hate", "tired", "bad", "awful", "waiting", "long lines"]

    tweet_lower = tweet.lower()
    if any(word in tweet_lower for word in positive_keywords):
        return "Positive"
    elif any(word in tweet_lower for word in negative_keywords):
        return "Negative"
    else:
        return "Neutral"

# Tweet to classify
tweet = "I am so tired of waiting in long lines."
sentiment = classify_tweet(tweet)
print(f'Tweet: "{tweet}" → {sentiment}')
```

Output:

```
neDrive/Desktop/WT/python.py
Tweet: "I am so tired of waiting in long lines." → Negative
PS C:\Users\nadhi\OneDrive\Desktop\WT>
```

Observation:

- The code is well-structured: examples, classification function, and testing are clearly separated.
- Sentiment is decided based on the presence of specific keywords.
- Example: if "delicious" is in the tweet → Positive.

Task-2:

Tweet	One-shot Output	Few-shot Output	Observation
"I love this new phone, it's amazing!"	Positive	Positive	Both models correctly identify positive sentiment because keywords love and amazing are explicitly included.

Tweet	One-shot Output	Few-shot Output	Observation
"This is the worst service ever."	Neutral	Negative	One-shot fails (no negative keywords learned), while few-shot succeeds because worst was seen in examples.
"I am going to the store later."	Neutral	Neutral	Both predict Neutral, though few-shot is more confident since it has neutral examples.
"The weather is fantastic today!"	Neutral	Positive	One-shot misclassifies because it doesn't know fantastic; few-hot succeeds since fantastic was in training examples.

Code:

```
Users > akshi > first.py > ...
def classify_tweet_one_shot(tweet: str) -> str:
    # One-shot example
    positive_keywords = ['love', 'amazing']
    negative_keywords = ['hate', 'terrible', 'bad', 'awful']

    tweet_lower = tweet.lower()
    if any(word in tweet_lower for word in positive_keywords):
        return "Positive"
    elif any(word in tweet_lower for word in negative_keywords):
        return "Negative"
    else:
        return "Neutral"

def classify_tweet_few_shot(tweet: str) -> str:
    # Few-shot examples
    positive_keywords = ['love', 'amazing', 'fantastic']
    negative_keywords = ['worst', 'bad', 'terrible']
    neutral_keywords = ['store', 'going', 'later']

    tweet_lower = tweet.lower()
    if any(word in tweet_lower for word in positive_keywords):
        return "Positive"
    elif any(word in tweet_lower for word in negative_keywords):
        return "Negative"
    elif any(word in tweet_lower for word in neutral_keywords):
        return "Neutral"
    else:
        return "Neutral"
```

```
tweets = [
    "I love this new phone, it's amazing!",
    "This is the worst service ever.",
    "I am going to the store later.",
    "The weather is fantastic today!",
    "I had a fantastic day at the park."
]

print("| Tweet                                  | One-shot Output | Few-shot Output |")
print("| -------------------------------------- | --------------- | --------------- |")
for tweet in tweets:
    one_shot = classify_tweet_one_shot(tweet)
    few_shot = classify_tweet_few_shot(tweet)
    print(f"| {tweet:<40} | {one_shot:<15} | {few_shot:<15} |")
```

Output:

```
[Running] python -u "c:\Users\akshi\first.py"
| Tweet                                  | One-shot Output | Few-shot Output |
| -------------------------------------- | --------------- | --------------- |
| I love this new phone, it's amazing!   | Positive        | Positive        |
| This is the worst service ever.        | Neutral         | Negative        |
| I am going to the store later.         | Neutral         | Neutral         |
| The weather is fantastic today!        | Neutral         | Positive        |
| I had a fantastic day at the park.     | Neutral         | Positive        |

[Done] exited with code=0 in 0.095 seconds
```

Observation:

The one-shot classifier was able to correctly identify positive sentiment when the tweet closely matched the given example. However, it failed to classify negative and some positive tweets correctly because its keyword coverage was limited to only the one example.

The few-shot classifier, on the other hand, performed better since it had multiple examples spanning all three classes (Positive, Negative, Neutral). This gave it richer keyword lists and broader context, allowing it to classify tweets more accurately.

For example, in the case of the tweet *"This is the worst service ever"*, the one-shot model returned Neutral (incorrect), while the few-shot model correctly returned Negative. Similarly, tweets with the word *"fantastic"* were missed by the one-shot classifier but correctly identified as Positive by the few-shot classifier.

Both models correctly identified simple neutral tweets like *"I am going to the store later"*.