ASSIGNMENT-4.1

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Batch:23

Ht. No:2303A510G6

Q1. Zero-Shot Prompting (Basic Lab Task)

Task:

Write a Python function that classifies a given text as Spam or Not Spam using zero-shot prompting.

Steps: 1. Construct a prompt without any examples.

2. Clearly specify the output labels.

3. Display only the predicted label.

Input:

"Congratulations! You have won a free lottery ticket."

Expected Output:

Spam

```python
# Write a python program to find whether the given text is so-spam or not
def is_spam(text):
    spam_keywords = ["win money", "free", "click here", "subscribe now", "limited time offer"]
    text_lower = text.lower()
    for keyword in spam_keywords:
        if keyword in text_lower:
            return True
    return False
text = input("Enter the text to check for spam: ")
if is_spam(text):
    print("The given text is spam.")
else:
    print("The given text is not spam.")
```

```
PS C:\Users\2303a\OneDrive\Desktop\AI> (C:\Users\2303a\miniconda3\Scripts\activate) ; (conda activate base)
PS C:\Users\2303a\OneDrive\Desktop\AI> & C:\Users\2303a\miniconda3\python.exe c:/Users/2303a/OneDrive/Desktop/AI/ASS_4.1.py
Enter the text to check for spam: "Congratulations! You have won a free lottery ticket
The given text is spam.
PS C:\Users\2303a\OneDrive\Desktop\AI>
```

Q2. One-Shot Prompting (Emotion detection)

Task:

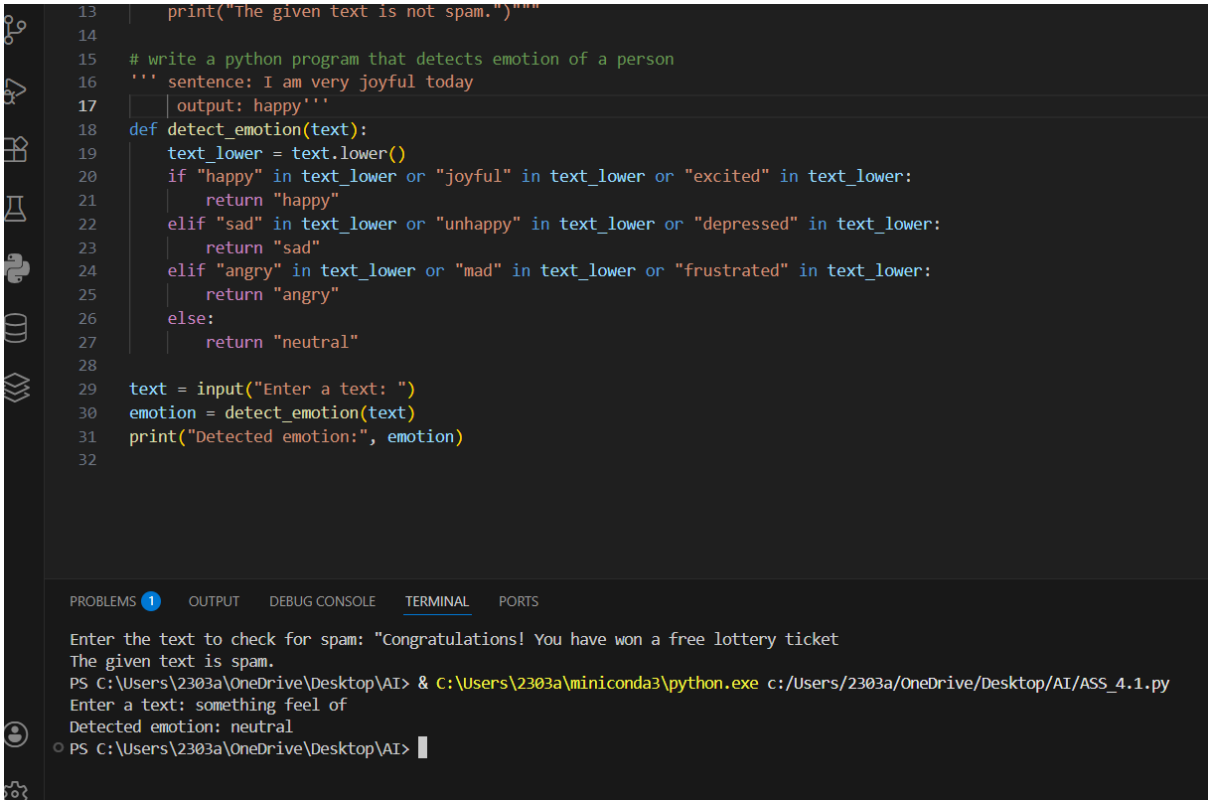
Write a Python program that detects the emotion of a sentence using one-shot prompting.
Emotions: [‘happy', 'sad', 'angry', 'excited', 'nervous', ’neutral’]

Steps:

1. Provide one labeled example inside the prompt.

2. Take a sentence as input.

3. Print the predicted emotion



Q3. Few-Shot Prompting (Student Grading Based on Marks)

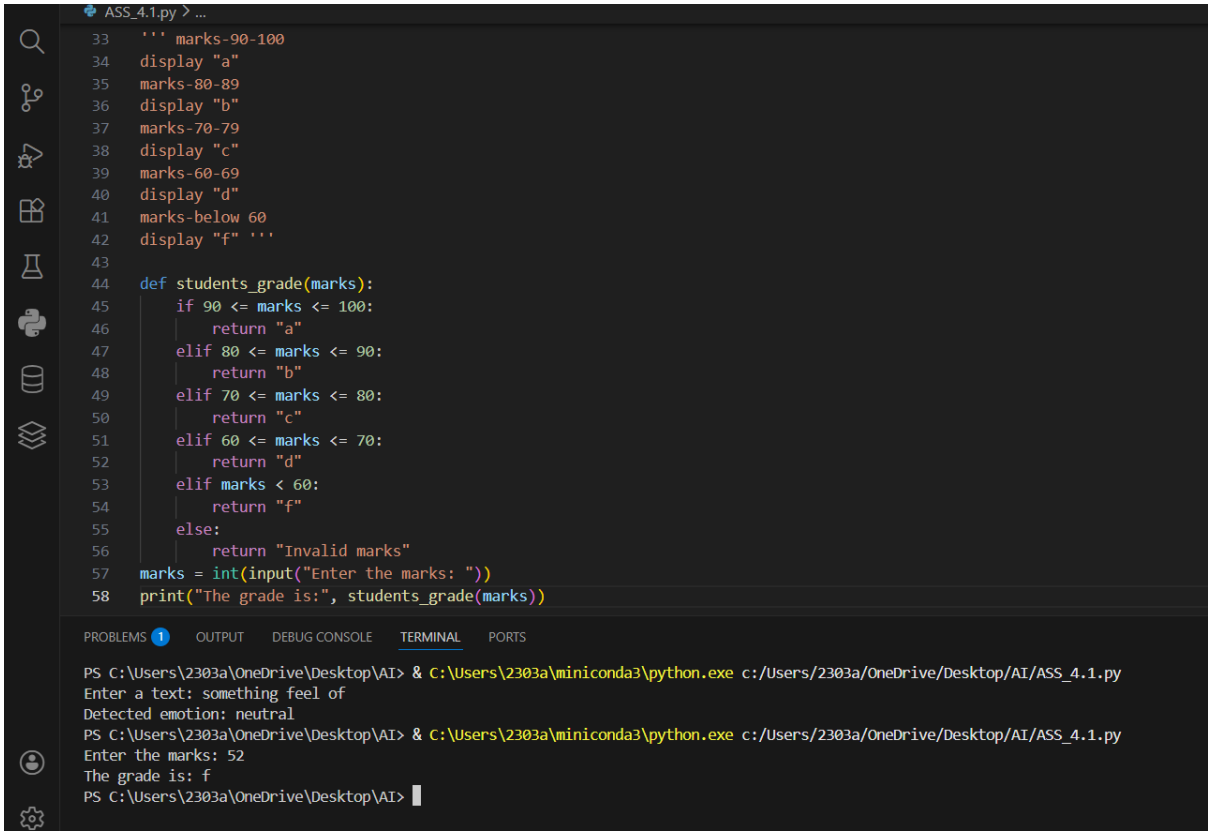
Task:

Write a Python program that predicts a student's grade based on marks using few-shot prompting.
Grades:

['A', 'B', 'C', 'D', 'F']

Grading Criteria (to be inferred from examples):

- 90–100 → A
- 80–89 → B
- 70–79 → C
- 60–69 → D
- Below 60 → F



Q4. Multi-Shot Prompting (Indian Zodiac Sign Prediction using Month Name)

Task:

Write a Python program that predicts a person's Indian Zodiac sign (Rashi) based on the month of birth (month name) using multi shot prompting.

Indian Zodiac Order (Simplified Month-Based Model): The Indian Zodiac cycle starts in March with Mesha and follows this order:

March → Mesha

April → Vrishabha

May → Mithuna

June → Karka

July → Simha

August → Kanya

September → Tula

October → Vrischika

November → Dhanu

December → Makara

January → Kumbha

February → Meena

Q5. Result Analysis Based on Marks

Task:

Write a Python program that determines whether a student Passes or Fails based on marks using Chain-of-Thought (CoT) prompting.

Result Categories:

['Pass', 'Fail']

```python
""" read marks of students from range 0-100
check if marks are greater than 40
if yes display "pass"
if no display "fail" """

def check_student_marks(marks):
    if 0 <= marks <= 100:
        if marks > 40:
            return "pass"
        else:
            return "fail"
    else:
        return "Invalid marks. Please enter a value between 0 and 100."
marks = int(input("Enter the marks of the student (0-100): "))
print(check_student_marks(marks))
```

```
ROBLEMS 1  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

S C:\Users\2303a\OneDrive\Desktop\AI> & C:\Users\2303a\miniconda3\python.exe c:/Users/2303a/OneDrive/Desktop/AI/ASS_4.1.py
nter the marks of the student (0-100): 75
ass
S C:\Users\2303a\OneDrive\Desktop\AI>
```

Q6 Voting Eligibility Check (Chain-of-Thought Prompting)

Task:

Write a Python program that determines whether a person is eligible to vote using Chain-of-Thought (CoT) prompting.

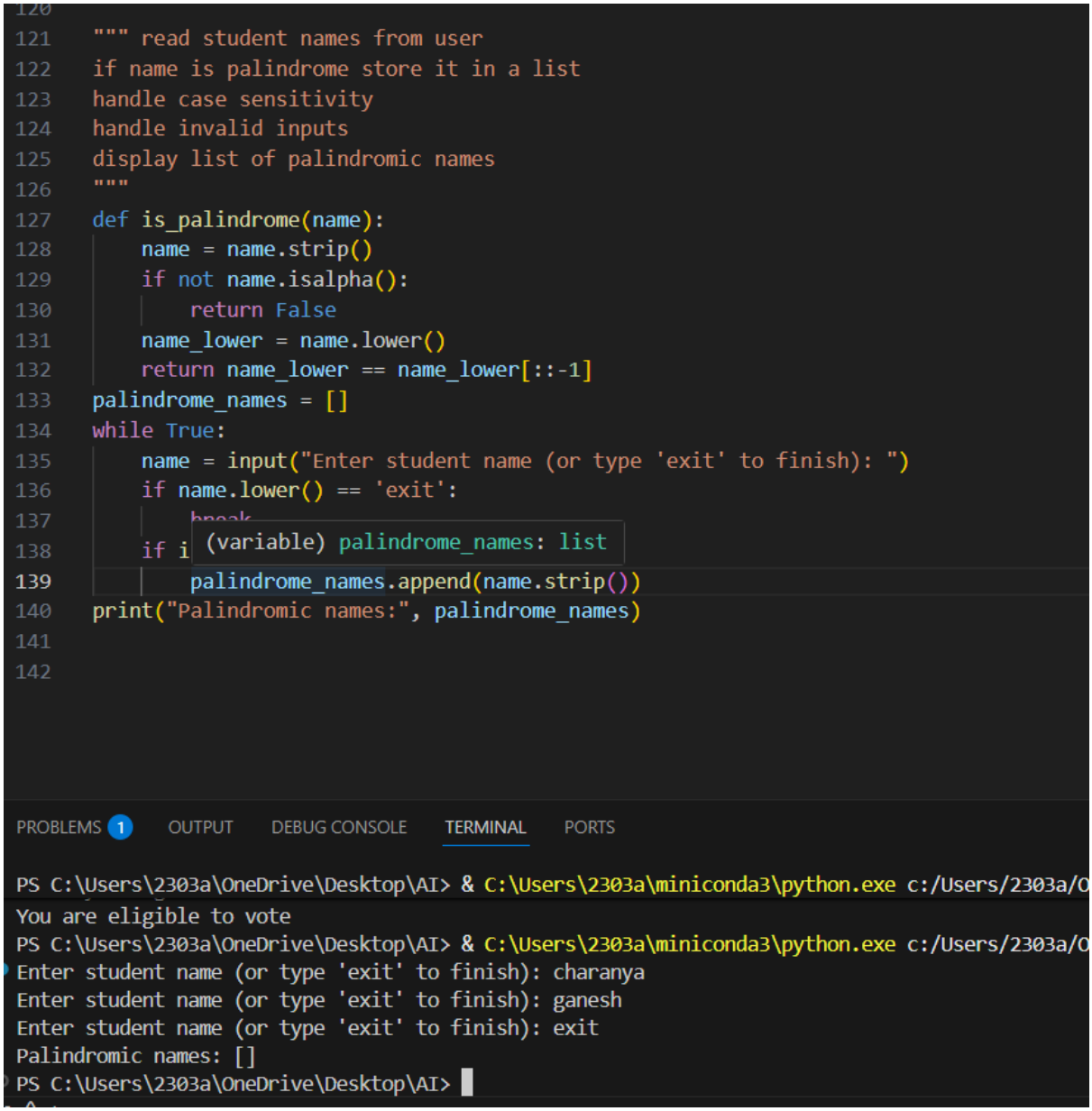
```python
""" read the age of person from range 1-100
check if age is greater than or equal to 18
if yes print "You are eligible to vote"
otherwise print "not eligible to vote"
"""
age = int(input("Enter your age: "))
if age >= 18:
    print("You are eligible to vote")
else:
    print("not eligible to vote")
```

```
PROBLEMS 1  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
pass
PS C:\Users\2303a\OneDrive\Desktop\AI> & C:\Users\2303a\miniconda3\python.exe c:/Users/2303a/OneDrive/Desktop/AI/ASS_4.1.py
Enter your age: 20
You are eligible to vote
PS C:\Users\2303a\OneDrive\Desktop\AI>
```

Q7 Prompt Chaining (String Processing – Palindrome Names)

Task:

Write a Python program that uses the prompt chaining technique to identify palindrome names from a list of student names.



Q8 Prompt Chaining (String Processing – Word Length Analysis)

Task:

Write a Python program that uses prompt chaining to analyze a list of words. In the first prompt, generate a list of words. In the second prompt, traverse the list and calculate the length of each word. In the third prompt, use the output of the previous step to determine whether each word is Short (length less than 5) or Long (length greater than or equal to 5), and display the result for each word.

```python
""" read words from user
count the length of each and store it in a variable
if variable <5 display as short
otherwise display as long
display the result of each word
"""

def classify_word_length(word):
    if len(word) < 5:
        return "short"
    else:
        return "long"
words = input("Enter words separated by spaces: ").split()
for word in words:
    length_classification = classify_word_length(word)
    print(f"The word '{word}' is {length_classification}")
```

```
ROBLEMS 1   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

S C:\Users\2303a\OneDrive\Desktop\AI> & C:\Users\2303a\miniconda3\python.exe c:/Users/2303a/OneDrive/Desktop/AI/ASS_4.1.py
S C:\Users\2303a\OneDrive\Desktop\AI> & C:\Users\2303a\miniconda3\python.exe c:/Users/2303a/OneDrive/Desktop/AI/ASS_4.1.py
nter words separated by spaces: dad
he word 'dad' is short
S C:\Users\2303a\OneDrive\Desktop\AI> & C:\Users\2303a\miniconda3\python.exe c:/Users/2303a/OneDrive/Desktop/AI/ASS_4.1.py
nter words separated by spaces: dad
he word 'dad' is short
S C:\Users\2303a\OneDrive\Desktop\AI>
```