

Lab Assignment-4.1

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Batch-02

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:

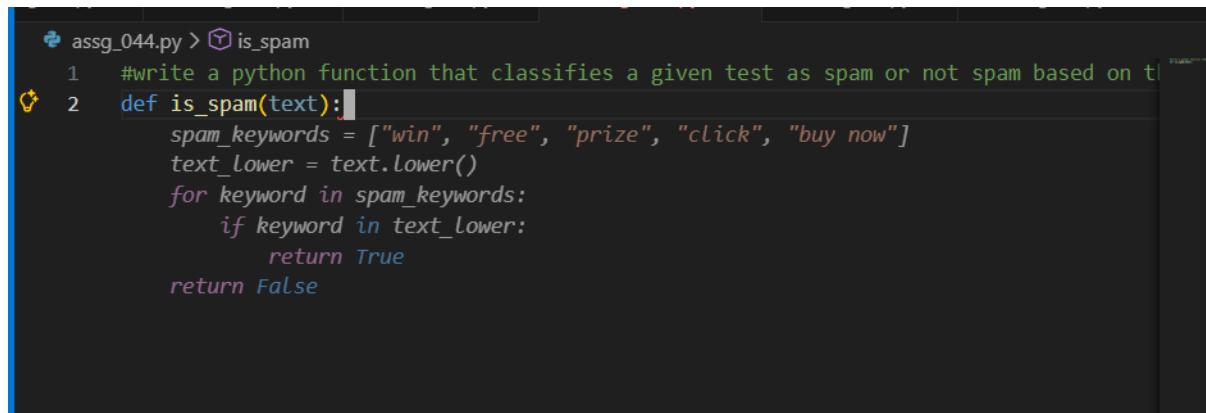
"Congratulations! You have won a free lottery ticket."

Expected Output:

Spam

Prompt:

```
#write a python function that classifies a given test as spam or not spam based on certain keywords
```



```
assg_044.py > is_spam
 1  #write a python function that classifies a given test as spam or not spam based on certain keywords
 2  def is_spam(text):]
      spam_keywords = ["win", "free", "prize", "click", "buy now"]
      text_lower = text.lower()
      for keyword in spam_keywords:
          if keyword in text_lower:
              return True
      return False
```

```
assg_044.py > ...
Editors
#write a python function that classifies a given test as spam or not spam based on certain keywords
def is_spam(text):
    spam_keywords = ["win", "free", "prize", "click", "buy now"]
    text_lower = text.lower()
    for keyword in spam_keywords:
        if keyword in text_lower:
            return True
    return False
user_input = input("Enter the text to classify: ")
if is_spam(user_input):
    print("The text is classified as spam.")
else:
    print("The text is not spam.")
```

Code:

```
def is_spam(text):

    spam_keywords = ["win", "free", "prize", "click", "buy now"]

    text_lower = text.lower()

    for keyword in spam_keywords:

        if keyword in text_lower:

            return True

    return False

user_input = input("Enter the text to classify: ")

if is_spam(user_input):

    print("The text is classified as spam.")

else:

    print("The text is not spam.")
```

input/output:

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS +
```

```
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter the text to classify: "Congratulations! You have won a free lottery ticket."
The text is classified as spam.
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>
```

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

Prompt:

emotions: ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']

write a python program that detect the mood of the person and take the sentance from the user if any word from the emotions list is present in the sentance then display that emotion otherwise display no emotion detected

```
15 """
16 emotions: ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']
17 write a python program that detects the emotion of sentance using the above list of emotions
18 """
19 """emotions = ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']
20 user_emotion = input("Enter an emotion to check: ").strip().lower()
21 if user_emotion in emotions:
22     print(f"The emotion '{user_emotion}' is present in the list.")
23 else:
24     print(f"The emotion '{user_emotion}' is not present in the list.")"""
```

```
15 """
16 emotions: ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']
17 write a python program that detect the mood of the person and take the sentance from user
18 """
19 emotions = ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']
20 user_input = input("Enter a sentence to detect emotion: ").lower()
21 detected_emotions = [emotion for emotion in emotions if emotion in user_input]
22 if detected_emotions:
23     print(f"Detected emotions: {', '.join(detected_emotions)}")
24 else:
25     print("No emotion detected.")
```

Code:

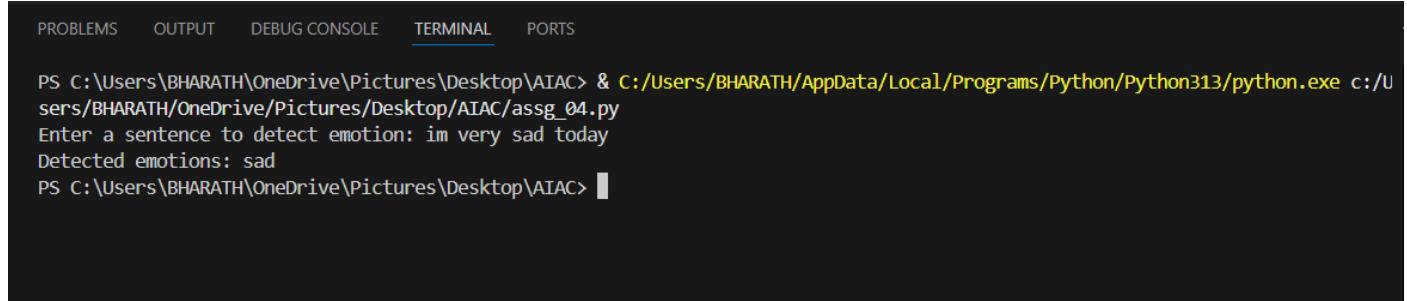
```
emotions = ['happy', 'sad', 'angry', 'excited', 'nervous', 'neutral']
```

```
user_input = input("Enter a sentence to detect emotion: ").lower()
```

```
detected_emotions = [emotion for emotion in emotions if emotion in user_input]

if detected_emotions:
    print(f"Detected emotions: {', '.join(detected_emotions)}")
else:
    print("No emotion detected.")
```

input/output:



The screenshot shows a terminal window with the following text:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter a sentence to detect emotion: im very sad today
Detected emotions: sad
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>
```

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

Prompt:

90-100=A

80-89=B

70-79=C

60-69=D

below 60=F

write a python program that predicts a student's grade based on marks obtained and only accept positive integer values from the user otherwise display invalid input

```
35 """try:  
    marks = int(input("Enter the marks (0-100): "))  
    if marks < 0 or marks > 100:  
        print("Invalid input. Please enter a positive integer between 0 and 100.")  
    else:  
        if 90 <= marks <= 100:  
            grade = 'A'  
        elif 80 <= marks <= 89:  
            grade = 'B'  
        elif 70 <= marks <= 79:  
            grade = 'C'  
        elif 60 <= marks <= 69:  
            grade = 'D'  
        else:  
            grade = 'F'  
        print(f"The grade for {marks} is: {grade}")  
    except ValueError:  
        print("Invalid input. Please enter a valid integer.")"""  
36 ↵
```

```
27 """  
28 90-100=A  
29 80-89=B  
30 70-79=C  
31 60-69=D  
32 below 60=F  
33 write a python program that predicts a student's grade based on marks obtained and only accept positive integer values from the user otherwise display invalid input  
34 """  
35 try:  
36     marks = int(input("Enter the marks (0-100): "))  
37     if marks < 0 or marks > 100:  
38         print("Invalid input. Please enter a positive integer between 0 and 100.")  
39     else:  
40         if 90 <= marks <= 100:  
41             grade = 'A'  
42         elif 80 <= marks <= 89:  
43             grade = 'B'  
44         elif 70 <= marks <= 79:  
45             grade = 'C'  
46         elif 60 <= marks <= 69:  
47             grade = 'D'  
48         else:  
49             grade = 'F'  
50         print(f"The grade for {marks} is: {grade}")  
51     except ValueError:  
52         print("Invalid input. Please enter a valid integer.")  
53
```

Code:

try:

```
marks = int(input("Enter the marks (0-100): "))
```

```
if marks < 0 or marks > 100:
```

```
    print("Invalid input. Please enter a positive integer between 0 and 100.")
```

```
else:
```

```

if 90 <= marks <= 100:
    grade = 'A'
elif 80 <= marks <= 89:
    grade = 'B'
elif 70 <= marks <= 79:
    grade = 'C'
elif 60 <= marks <= 69:
    grade = 'D'
else:
    grade = 'F'

print(f"The grade for {marks} is: {grade}")

except ValueError:
    print("Invalid input. Please enter a valid integer.")

```

input/output:

```

PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter the marks (0-100): 35
The grade for 35 is: F
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter the marks (0-100): 100
The grade for 100 is: A
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter the marks (0-100): 40
The grade for 40 is: F
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter the marks (0-100): 45
The grade for 45 is: F
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>

```

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

Prompt:

march=mesha

april=vrishabha

may=mithuna

june=karka

july=simha

august=kanya

september=tula

october=vrischika

november=dhanus

december=makara

january=kumbha

february=meena

write a python code to accept month from the user and display the corresponding zodiac sign and only accept valid month names otherwise display invalid input

```

54
55     """
56
57     march=mesha
58     april=vrishabha
59     may=mithuna
60     june=karka
61     july=simha
62     august=kanya
63     september=tula
64     october=vrischika
65     november=dhanus
66     december=makara
67     january=kumbha
68     february=meena
69     write a python code to accept month from the user and display the corresponding zod
70
71     """
72 month_to_zodiac = {
73     "march": "mesha",
74     "april": "vrishabha",
75     "may": "mithuna",
76     "june": "karka",
77     "july": "simha",
78     "august": "kanya",
79     "september": "tula",
80     "october": "vrischika",
81     "november": "dhanus",
82     "december": "makara",
83     "january": "kumbha",
84     "february": "meena"
85 }
86 user_month = input("Enter a month: ").strip().lower()
87 zodiac_sign = month_to_zodiac.get(user_month)
88 if zodiac_sign:
89     print(f"The zodiac sign for {user_month.capitalize()} is {zodiac_sign}.")
90 else:
91     print("Invalid input. Please enter a valid month name.")
92

```

Code:

```

month_to_zodiac = {

    "march": "mesha",

    "april": "vrishabha",

    "may": "mithuna",

    "june": "karka",

    "july": "simha",

    "august": "kanya",

    "september": "tula",

    "october": "vrischika",

    "november": "dhanus",

```

```

    "december": "makara",
    "january": "kumbha",
    "february": "meena"
}

user_month = input("Enter a month: ").strip().lower()
zodiac_sign = month_to_zodiac.get(user_month)

if zodiac_sign:
    print(f"The zodiac sign for {user_month.capitalize()} is {zodiac_sign}.")
else:
    print("Invalid input. Please enter a valid month name.")

```

input/output:

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter a month: march
The zodiac sign for March is mesha.
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>

```

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']

Prompt:

take marks as an input from the user

if marks is greater than or equal to 40 then print pass

if marks is less than 40 then print fail

```
93 """
94 take marks as an input from the user
95 if marks is greater than or equal to 40 then print pass
96 if marks is less than 40 then print fail
97 """
98 """
99 try:
    marks = int(input("Enter the marks: "))
    if marks < 0:
        print("Invalid input. Please enter a positive integer for marks.")
    else:
        if marks >= 40:
            print("Pass")
        else:
            print("Fail")
except ValueError:
    print("Invalid input. Please enter a valid integer for marks.")"""
100
```

```
"""
take marks as an input from the user
if marks is greater than or equal to 40 then print pass
if marks is less than 40 then print fail
"""

try:
    marks = int(input("Enter the marks: "))
    if marks < 0:
        print("Invalid input. Please enter a positive integer.")
    else:
        if marks >= 40:
            print("Pass")
        else:
            print("Fail")
except ValueError:
    print("Invalid input. Please enter a valid integer.")
```

Code:

```
try:  
    marks = int(input("Enter the marks: "))  
  
    if marks < 0:  
        print("Invalid input. Please enter a positive integer.")  
  
    else:  
        if marks >= 40:  
            print("Pass")
```

```
else:  
    print("Fail")  
  
except ValueError:  
    print("Invalid input. Please enter a valid integer.")
```

input/output:

```
invalid input. Please enter a valid integer.  
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python3.13t.exe  
c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py  
Enter the marks: 45  
Pass  
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python3.13t.exe  
c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py  
Enter the marks: 100  
Pass  
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python3.13t.exe  
c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py  
Enter the marks: 55  
Pass  
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> █
```

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.

Prompt:

```
take age from the user  
if age is equal or greater than 18  
then print eligible to vote  
if age is less than 18  
print not eligible to vote
```

prompt:

```
take age from the user  
if age is equal or greater than 18  
then print eligible to vote  
if age is less than 18  
print not eligible to vote
```

```
111 """
112     take age from the user
113     if age is equal or greater than 18
114         then print eligible to vote
115     if age is less than 18
116         print not eligible to vote
117 """
118 """
119     try:
120         age = int(input("Enter your age: "))
121         if age < 0:
122             print("Invalid input. Please enter a positive integer.")
123         else:
124             if age >= 18:
125                 print("Eligible to vote")
126             else:
127                 print("Not eligible to vote")
128     except ValueError:
129         print("Invalid input. Please enter a valid integer.")"""
130
```

```
111 """
112     take age from the user
113     if age is equal or greater than 18
114         then print eligible to vote
115     if age is less than 18
116         print not eligible to vote
117 """
118 try:
119     age = int(input("Enter your age: "))
120     if age < 0:
121         print("Invalid input. Please enter a positive integer.")
122     else:
123         if age >= 18:
124             print("Eligible to vote")
125         else:
126             print("Not eligible to vote")
127 except ValueError:
128     print("Invalid input. Please enter a valid integer.")
129
130
```

Code:

try:

```
age = int(input("Enter your age: "))

if age < 0:

    print("Invalid input. Please enter a positive integer.")
```

```

else:
    if age >= 18:
        print("Eligible to vote")
    else:
        print("Not eligible to vote")

except ValueError:
    print("Invalid input. Please enter a valid integer.")

```

input/output:



The screenshot shows a terminal window with the following content:

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS + 

PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter your age: 18
Eligible to vote
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter your age: 17
Not eligible to vote
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>

```

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.

Prompt:

```

take list of names form the user
if student names raa palindrome
then print those names in the form of list

```

```

● 130 """
131   take lidt of names form the user
132   if student names raa palindrome
133   then print those names in the form of list
134
135 """
136 def is_palindrome(name):
137
138

```

```

129 """
130 """
131   take lidt of names form the user
132   if student names raa palindrome
133   then print those names in the form of list
134
135 """
136 def is_palindrome(name):
137     return name == name[::-1]
138 students = input("Enter student names separated by commas: ").split(",")
139 palindrome_students = [name.strip() for name in students if is_palindrome(name.strip())]
140 print("Palindrome names:", palindrome_students)
141
142 |
143
144

```

Code:

```

def is_palindrome(name):

    return name == name[::-1]

students = input("Enter student names separated by commas: ").split(",")

palindrome_students = [name.strip() for name in students if is_palindrome(name.strip())]

print("Palindrome names:", palindrome_students)

```

input/output:

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python.exe c:/users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py
Enter student names separated by commas: bharath , prem , uday , madam
Palindrome names: ['madam']
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>

```

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

Prompt:

take list of words from the user

if the length of the individual word is greater than 5 then the the word is longs word

else the word is short

print the longs words and short words in the form of list

```
142 """
143     take list of words from the user
144     if the length of the individual word is greater than 5 then the the word is longs word
145     else the word is short
146     print the longs words and short words in the form of list
147 """
148 words = input("Enter words separated by commas: ").split(",")
149 Long_words = [word.strip() for word in words if len(word.strip()) > 5]
150 ^
151
```

```
142 """
143     take list of words from the user
144     if the length of the individual word is greater than 5 then the the word is longs word
145     else the word is short
146     print the longs words and short words in the form of list
147 """
148 words = input("Enter words separated by commas: ").split(",")
149 long_words = [word.strip() for word in words if len(word.strip()) > 5]
150 short_words = [word.strip() for word in words if len(word.strip()) <= 5]
151 print("Long words:", long_words)
152 print("Short words:", short_words)
153 |
```

Code:

```
words = input("Enter words separated by commas: ").split(",")
long_words = [word.strip() for word in words if len(word.strip()) > 5]
short_words = [word.strip() for word in words if len(word.strip()) <= 5]
print("Long words:", long_words)
print("Short words:", short_words)
```

input/output:

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC> & C:/Users/BHARATH/AppData/Local/Programs/Python/Python313/python3.13t.exe  
c:/Users/BHARATH/OneDrive/Pictures/Desktop/AIAC/assg_04.py  
Enter words separated by commas: elephant , fox , tiger , lion  
Long words: ['elephant']  
Short words: ['fox', 'tiger', 'lion']  
PS C:\Users\BHARATH\OneDrive\Pictures\Desktop\AIAC>
```