

AI Assisted Coding
LAB ASSIGNMENT – 4

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Batch : 02

1) Zero – Shot Prompting

Task:

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

Prompt :

write a python function that classifies a given text as spam or Not spam

Code :

```
def classify_text(text):  
    spam_keywords = ['win', 'prize', 'free', 'money', 'urgent', 'click', 'offer',  
        'congratulations', 'lottery', 'bonus', 'cash', 'credit', 'deal',  
        'discount', 'limited', 'exclusive', 'cheap', 'guarantee', 'gift',  
        'trial', 'subscribe', 'buy now', 'act fast', 'winner', 'selected',  
        'promotion', 'earn', 'income', 'investment', 'double', 'refund',  
        'risk-free', 'apply now', 'order', 'password', 'account', 'access',  
        'claim', 'opportunity', 'urgent response', 'limited time']
```

```

text_lower = text.lower()
if any(keyword in text_lower for keyword in spam_keywords):
    return "The text is classified as Spam."
else:
    return "The text is classified as Not Spam."
# Test the function
text = input("Enter the text to classify: ")
result = classify_text(text)
print(result)

```

```

AI-AC > assign4.py > classify_text
1  '''write a python function that classifies a given text as spam or Not spam
2  '''
3  def classify_text(text):
4      spam_keywords = ['win', 'prize', 'free', 'money', 'urgent', 'click', 'offer',
5      'congratulations', 'lottery', 'bonus', 'cash', 'credit', 'deal',
6      'discount', 'limited', 'exclusive', 'cheap', 'guarantee', 'gift',
7      'trial', 'subscribe', 'buy now', 'act fast', 'winner', 'selected',
8      'promotion', 'earn', 'income', 'investment', 'double', 'refund',
9      'risk-free', 'apply now', 'order', 'password', 'account', 'access',
10     'claim', 'opportunity', 'urgent response', 'limited time']
11
12     text_lower = text.lower()
13     if any(keyword in text_lower for keyword in spam_keywords):
14         return "The text is classified as Spam."
15     else:
16         return "The text is classified as Not Spam."
17 # Test the function
18 text = input("Enter the text to classify: ")
19 result = classify_text(text)
20 print(result)

```

Output :

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

ents/CSE/3-2/AI-AC/assign4.py
Enter a sentence to classify its emotion: what are talking is that true
The emotion is classified as Neutral.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/AppDat
ents/CSE/3-2/AI-AC/assign4.py
Enter a sentence to classify its emotion: i am so much depressed
The emotion is classified as Sad.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/AppDat
ents/CSE/3-2/AI-AC/assign4.py
Enter a sentence to classify its emotion: i am grateful to you
The emotion is classified as Happy.
```

2) One-Shot Prompting

Task :

Write a Python program that detects the emotion of a sentence using one-shot prompting.

Prompt:

sentence = i am going to school
display emotion nuetral as output

Code :

```
def classify_emotion(sentence):
    happy_keywords = ['happy', 'joy', 'excited', 'pleased', 'delighted',
'cheerful',
'content', 'satisfied', 'thrilled', 'elated', 'ecstatic', 'jubilant',
'overjoyed', 'gleeful', 'blissful', 'radiant', 'upbeat', 'optimistic',
```

```
'enthusiastic', 'grateful']
```

```
sad_keywords = ['sad', 'unhappy', 'depressed', 'downcast', 'miserable',  
                'gloomy', 'sorrowful', 'heartbroken', 'melancholy', 'despairing',  
                'disappointed', 'lonely', 'regretful', 'wistful', 'forlorn',  
                'dismal', 'blue', 'downhearted', 'crestfallen', 'dejected']
```

```
sentence_lower = sentence.lower()  
if any(keyword in sentence_lower for keyword in happy_keywords):  
    return "The emotion is classified as Happy."  
elif any(keyword in sentence_lower for keyword in sad_keywords):  
    return "The emotion is classified as Sad."  
else:  
    return "The emotion is classified as Neutral."
```

```
# Test the function
```

```
sentence = input("Enter a sentence to classify its emotion: ")  
result = classify_emotion(sentence)  
print(result)
```

```

AI-AC > assign4.py > classify_emotion
22
23 '''
24 sentence = i am going to school
25 display emotion neutral as output
26
27 '''
28 def classify_emotion(sentence):
29     happy_keywords = ['happy', 'joy', 'excited', 'pleased', 'delighted', 'cheerful',
30                       'content', 'satisfied', 'thrilled', 'elated', 'ecstatic', 'jubilant',
31                       'overjoyed', 'gleeful', 'blissful', 'radiant', 'upbeat', 'optimistic',
32                       'enthusiastic', 'grateful']
33
34     sad_keywords = ['sad', 'unhappy', 'depressed', 'downcast', 'miserable',
35                    'gloomy', 'sorrowful', 'heartbroken', 'melancholy', 'despairing',
36                    'disappointed', 'lonely', 'regretful', 'wistful', 'forlorn',
37                    'dismal', 'blue', 'downhearted', 'crestfallen', 'dejected']
38
39     sentence_lower = sentence.lower()
40     if any(keyword in sentence_lower for keyword in happy_keywords):
41         return "The emotion is classified as Happy."
42     elif any(keyword in sentence_lower for keyword in sad_keywords):
43         return "The emotion is classified as Sad."
44     else:
45         return "The emotion is classified as Neutral."
46 # Test the function
47 sentence = input("Enter a sentence to classify its emotion: ")
48 result = classify_emotion(sentence)
49 print(result)

```

Output :

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

ents/CSE/3-2/AI-AC/assign4.py
Enter a sentence to classify its emotion: what are talking is that true
The emotion is classified as Neutral.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/AppDat
ents/CSE/3-2/AI-AC/assign4.py
Enter a sentence to classify its emotion: i am so much depressed
The emotion is classified as Sad.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/AppDat
ents/CSE/3-2/AI-AC/assign4.py
Enter a sentence to classify its emotion: i am grateful to you
The emotion is classified as Happy.

```

3) Few – Shot Prompting

Task :

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

Prompt :

```
marks=85  
display B as output  
marks=91  
display A as output  
marks=49  
display F as output  
marks=25  
display F as output
```

Code :

```
def classify_grade(marks):  
    if marks < 0 or marks > 100:  
        return "Please enter valid marks between 0 and 100."  
    elif marks >= 90:  
        return "Grade: A"  
    elif marks >= 80:
```

```
        return "Grade: B"
    elif marks >= 70:
        return "Grade: C"
    elif marks >= 60:
        return "Grade: D"
    else:
        return "Grade: F"
# Test the function
try:
    marks = int(input("Enter the marks (0-100): "))
    result = classify_grade(marks)
    print(result)
except ValueError:
    print("Invalid input. Please enter an integer.")
```

```
AI-AC > assign4.py > ...
52  ▾ '''
53      marks=85
54      display B as output
55      marks=91
56      display A as output
57      marks=49
58      display F as output
59      marks=25
60      display F as output
61
62      '''
63  ▾ def classify_grade(marks):
64  ▾      if marks < 0 or marks > 100:
65  ▾          return "Please enter valid marks between 0 and 100."
66  ▾      elif marks >= 90:
67  ▾          return "Grade: A"
68  ▾      elif marks >= 80:
69  ▾          return "Grade: B"
70  ▾      elif marks >= 70:
71  ▾          return "Grade: C"
72  ▾      elif marks >= 60:
73  ▾          return "Grade: D"
74  ▾      else:
75  ▾          return "Grade: F"
76      # Test the function
77  ▾ try:
78  ▾     marks = int(input("Enter the marks (0-100): "))
79  ▾     result = classify_grade(marks)
80  ▾     print(result)
81  ▾ except ValueError:
82  ▾     print("Invalid input. Please enter an integer.")
83
```

Output :


```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

ents/CSE/3-2/AI-AC/assign4.py
Enter the marks (0-100): 73
Grade: C
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Use
ents/CSE/3-2/AI-AC/assign4.py
Enter the marks (0-100): 96
Grade: A
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Use
ents/CSE/3-2/AI-AC/assign4.py
Enter the marks (0-100): 14
Grade: F
```

4) Multi Shot Prompting

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.

Prompt :

```
month=february
display meena as output
month=april
display vrishabha as output
month = june
display karka as output
month=september
display tula as output
```

month=november
display dhanu as output

Code :

```
def get_zodiac_sign(month):  
    month = month.lower()  
    zodiac_signs = {  
        'january': 'Kumbha',  
        'february': 'Meena',  
        'march': 'Mesha',  
        'april': 'Vrishabha',  
        'may': 'Mithuna',  
        'june': 'Karka',  
        'july': 'Simha',  
        'august': 'Kanya',  
        'september': 'Tula',  
        'october': 'Vrischika',  
        'november': 'Dhanu',  
        'december': 'Makara'  
    }  
    return zodiac_signs.get(month, "Please enter a valid month name.")  
# Test the function  
month = input("Enter the month: ")  
result = get_zodiac_sign(month)  
print(result)
```

```
AI-AC > assign4.py > ...
84 '''
85     month=february
86     display meena as output
87     month=april
88     display vrishabha as output
89     month = june
90     display karka as output
91     month=september
92     display tula as output
93     month=november
94     display dhanu as output
95 '''
96
97 def get_zodiac_sign(month):
98     month = month.lower()
99     zodiac_signs = {
100         'january': 'Kumbha',
101         'february': 'Meena',
102         'march': 'Mesha',
103         'april': 'Vrishabha',
104         'may': 'Mithuna',
105         'june': 'Karka',
106         'july': 'Simha',
107         'august': 'Kanya',
108         'september': 'Tula',
109         'october': 'Vrischika',
110         'november': 'Dhanu',
111         'december': 'Makara'
112     }
113     return zodiac_signs.get(month, "Please enter a valid month name.")
114
115 # Test the function
116 month = input("Enter the month: ")
117 result = get_zodiac_sign(month)
118 print(result)
```

Output :

```
Enter the month: december
Please enter a valid month name.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-
ents\CSE/3-2/AI-AC/assign4.py
Enter the month: February
Meena
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-
ents\CSE/3-2/AI-AC/assign4.py
Enter the month: December
Makara
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-
ents\CSE/3-2/AI-AC/assign4.py
Enter the month: June
Karka
```

5) Voting Eligibility Check

Task :

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

Prompt :

take persons age as input
check the age is positive number and greater than 18
if yes print eligible to vote
else print not eligible to vote

Code :

```
def check_voting_eligibility(age):
```

```
    if age < 0:
        return "Please enter a positive number."
    elif age >= 18:
        return "Eligible to vote."
    else:
        return "Not eligible to vote."
# Test the function
try:
    age = int(input("Enter your age: "))
    result = check_voting_eligibility(age)
    print(result)
except ValueError:
    print("Invalid input. Please enter a valid age.")
```

```
AI-AC > assign4.py > ...
129
130 '''
131     take persons age as input
132     check the age is positive number and greater than 18
133     if yes print eligible to vote
134     else print not eligible to vote
135     '''
136 def check_voting_eligibility(age):
137     if age < 0:
138         return "Please enter a positive number."
139     elif age >= 18:
140         return "Eligible to vote."
141     else:
142         return "Not eligible to vote."
143 # Test the function
144 try:
145     age = int(input("Enter your age: "))
146     result = check_voting_eligibility(age)
147     print(result)
148 except ValueError:
149     print("Invalid input. Please enter a valid age.")
150
```

Output :

```
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:\Users\abhir\AppData\Local\Programs\Python\Python38-32\Scripts\python.exe C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2\AI-AC\assign4.py
Enter the month: & C:/Users/abhir/AppData/Local/Programs/Python/Python38-32/Scripts/python.exe C:/Users/abhir/OneDrive/Pictures/Documents/CSE/3-2/AI-AC/assign4.py
Please enter a valid month name.
Enter your age: 18
Eligible to vote.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:\Users\abhir\AppData\Local\Programs\Python\Python38-32\Scripts\python.exe C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2\AI-AC\assign4.py
Enter your age: 57
Eligible to vote.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:\Users\abhir\AppData\Local\Programs\Python\Python38-32\Scripts\python.exe C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2\AI-AC\assign4.py
Enter your age: 10
Not eligible to vote.
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> █
```

6) Prompt Chaining

Task :

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

Prompt :

take a list of student names from user
check all the names which are same from starting and ending characters
if yes store that palindrome names in a separate list
print that list

Code :

```
def find_palindrome_names(names):
    palindrome_names = [name for name in names if name[0].lower() ==
name[-1].lower()]
    return palindrome_names
# Test the function
names_input = input("Enter student names separated by commas: ")
names_list = [name.strip() for name in names_input.split(",")]
palindrome_names = find_palindrome_names(names_list)
print("Names with same starting and ending characters:",
palindrome_names)
```

```
'''
take a list of student names from user
check all the names which are same from starting and ending characters
if yes store that palindrome names in a seperate list
print that list
'''
def find_palindrome_names(names):
    palindrome_names = [name for name in names if name[0].lower() == name[-1].lower()]
    return palindrome_names
# Test the function
names_input = input("Enter student names separated by commas: ")
names_list = [name.strip() for name in names_input.split(",")]
palindrome_names = find_palindrome_names(names_list)
print("Names with same starting and ending characters:", palindrome_names)
```

Output :

```

PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/AppData\Local\Microsoft\Windows\InetRes\res\AI-AC\assign4.py
Enter student names separated by commas: ram,ramar
Names with same starting and ending characters: ['ramar']
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/AppData\Local\Microsoft\Windows\InetRes\res\AI-AC\assign4.py
Enter student names separated by commas: abhi,sathwika,nitin,ramar,radar,rohit
Names with same starting and ending characters: ['nitin', 'ramar', 'radar']

```

7) Prompt Chaining

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 :

generate list a words
 from list of words calculate the length of each word
 display the list of words whether word length is less than 5 or greater than 5 and result of each word

Code :

```

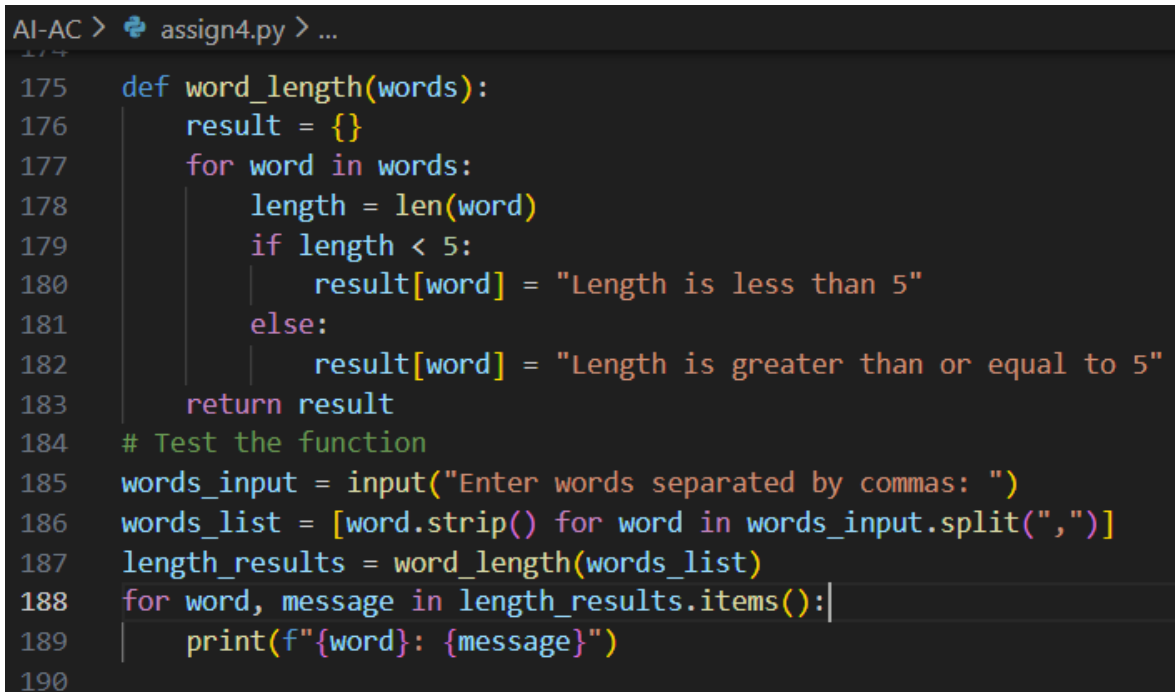
def word_length(words):
    result = {}
    for word in words:

```



```
length = len(word)
if length < 5:
    result[word] = "Length is less than 5"
else:
    result[word] = "Length is greater than or equal to 5"
return result

# Test the function
words_input = input("Enter words separated by commas: ")
words_list = [word.strip() for word in words_input.split(",")]
length_results = word_length(words_list)
for word, message in length_results.items():
    print(f"{word}: {message}")
```



The screenshot shows a code editor window with a dark background. The title bar at the top reads "AI-AC > assign4.py > ...". The code is displayed in a light-colored font with syntax highlighting. Line numbers 175 through 190 are visible on the left side of the editor. The code defines a function, tests it, and prints the results.

```
175 def word_length(words):
176     result = {}
177     for word in words:
178         length = len(word)
179         if length < 5:
180             result[word] = "Length is less than 5"
181         else:
182             result[word] = "Length is greater than or equal to 5"
183     return result
184 # Test the function
185 words_input = input("Enter words separated by commas: ")
186 words_list = [word.strip() for word in words_input.split(",")]
187 length_results = word_length(words_list)
188 for word, message in length_results.items():
189     print(f"{word}: {message}")
190
```

Output :

```
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2> & C:/Users/abhir/A
ents/CSE/3-2/AI-AC/assign4.py
Enter words separated by commas: assissted,coding,easy,course,to,pass
assissted: Length is greater than or equal to 5
coding: Length is greater than or equal to 5
easy: Length is less than 5
course: Length is greater than or equal to 5
to: Length is less than 5
pass: Length is less than 5
PS C:\Users\abhir\OneDrive\Pictures\Documents\CSE\3-2>
```