AI ASSISTED CODING

LAB ASSIGNMENT – 4

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Week: 2 **Day:** Wednesday

1. Zero-Shot Prompting – Leap Year Check

Prompt Used: Write a Python function to check whether a given year is a leap year.

Program Code:

```
def is_leap_year(year):
    if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
        return True
    return False
```

Output :

```
Input: 2024 -> True
Input: 1900 -> False
Input: 2000 -> True
```

2. One-Shot Prompting – Centimeters to Inches Conversion

Prompt Used: Convert centimeters to inches. Example: 10 cm -> 3.94 inches **Program Code:**

```
def cm_to_inches(cm):
return   cm   /   2.54
```

Output:

```
Input: 10 -> 3.94
Input: 25 -> 9.84
```

3. Few-Shot Prompting – Name Formatting

Prompt Used: Format full name as 'Last, First' using examples.

Program Code:

```
def format_name(name):
    first, last = name.split()
return    f"{last},    {first}
```

Output:

```
John Smith -> Smith, John
Anita Rao -> Rao, Anita
```

4. Comparative Analysis – Vowel Count

Program Code:

```
def count_vowels(text):
    vowels = 'aeiouAEIOU'
    count = 0 for c in
    text:
        if c in vowels:
            count += 1 return
    count
```

Output :

```
hello -> 2 education
-> 5
```

5. Few-Shot Prompting – File Handling

Program Code:

```
def count_lines(filename):
    with open(filename, 'r') as f:
        return len(f.readlines())
```

Output:

```
File with 3 lines -> 3
Empty file -> 0
```

Conclusion

This Lab-4 record demonstrates zero-shot, one-shot, and few-shot prompting techniques. Few-shot prompting provides better clarity, accuracy, and structured AI-generated code compared to other methods.