

AI Assisted Coding

Assignment 4.5

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Task-01:

Prompt:

write a python code for leap year checking. The function should be accepting a year from user, checks whether the given year is a leap year or not.

Code:

```
1  """write a python code for leap year checking.the function should be accepting a year from user,checks whether the given year is a
2  year = int(input("Enter a year: "))
3  if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
4  |   print(f"{year} is a leap year.")
5  else:
6  |   print(f"{year} is not a leap year.")
7
8  print("\n" + "*60)
9  print("COMPARISON TABLE")
10 print("*60)
11 comparison = """
12
13 | Readability | Verbose | Concise, Pythonic |
14 | Large Inputs | Slow, inefficient | Fast, optimized |
15 | Educational Value | Great for learning | Practical, modern |
16 | When to Use | Learning/Teaching Understanding string mechanics | Production code Real-world apps Performance-critical |
17 |             |             |             |
18 |             |             |             |
19 |             |             |             |
20 |             |             |             |
21 |             |             |             |
22 |             |             |             |
23 """
```

Output:

```
PS C:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Coding> python -u ""
Enter a year: 2004
2004 is a leap year.
```

=====

COMPARISON TABLE

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Readability	Verbose	Concise, Pythonic
Large Inputs	Slow, inefficient	Fast, optimized
Educational Value	Great for learning	Practical, modern
When to Use	Learning/Teaching Understanding string mechanics	Production code Real-world apps Performance-critical

Task02:

Prompt:

write a python code for converting centimetres to inches by using mathematical formula. Example when user gave input 10cm and output should be 3.93 inches

Code

```
# write a python code for converting centimeters to inches by using
def cm_to_inches(cm):
    inches = cm / 2.54
    return inches
# Example usage
cm_value = float(input("Enter length in centimeters: "))
inches_value = cm_to_inches(cm_value)
print(f"{cm_value} cm is equal to {inches_value:.2f} inches.")
```

Output:

```
● PS C:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Coding> python -u "c:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Coding\week4_3.py"
Enter length in centimeters: 11
11.0 cm is equal to 4.33 inches.
❖ PS C:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Coding>
```



```
p\3-2\AI-Assisted-Coding\week4_3.py"
Enter length in centimeters: 15
15.0 cm is equal to 5.91 inches.
❖ PS C:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Cod
```

Task_03

Prompt: write a python code for name formating function that accepts first name and last name from user and returns the full name as "Last Name, First Name" example input : first name = john , last name = smith output : smith, john example 2: first name = anitha , last name = Rao output : Rao, Anitha

Code:

```
# # write a python code for name formating function that accepts first
def format_name(first_name, last_name):
    return f"{last_name.capitalize()}, {first_name.capitalize()}"
# Example usage
first_name = input("Enter first name: ")
last_name = input("Enter last name: ")
formatted_name = format_name(first_name, last_name)
print(f"Formatted Name: {formatted_name}")
```

Output:

```
esktop\3-2\AI-Assisted-Coding\week4_3.py"
● Enter first name: vivek
    Enter last name: lakum
    Formatted Name: Lakum , Vivek
❖ PS C:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Coding> █
```

Task_04

Prompt: # Write a function in Python that takes a string as input and returns the number of vowels in the string. Consider both uppercase and lowercase vowels.

Code:

```
✓ def count_vowels(input_string):
    vowels = "aeiouAEIOU"
    count = sum(1 for char in input_string if char in vowels)
    return count
# Example usage
user_string = input("Enter a string: ")
vowel_count = count_vowels(user_string)
print(f"Number of vowels in the string: {vowel_count}")
```

Output:

```
.py
Enter a string: python
Number of vowels in the string: 1
PS C:\Users\Vivek\OneDrive\Desktop\3-2
```

Few Shot:

Example 1: Input: "apple" Output: 2 Example 2: Input: "HELLO" Output: 2
Now write a Python function that takes a string as input and returns the number of vowels in it. Count both uppercase and lowercase vowels.

Code:

```
# Example 1: Input: "apple" Output: 2 Example 2: Input: "HELLO"
✓ def count_vowels(input_string):
    vowels = "aeiouAEIOU"
    count = sum(1 for char in input_string if char in vowels)
    return count
# Example usage
user_string = input("Enter a string: ")
vowel_count = count_vowels(user_string)
print(f"Number of vowels in the string: {vowel_count}")
```

Output:

```
.py
Enter a string: Laptop
Number of vowels in the string: 2
PS C:\Users\Vivek\OneDrive\Desktop\3-2\AI-Assisted-Coding>
```

Task_05:

Prompt: content (sample1.txt):

Hello

Welcome to Python

File handling example

Output:

Number of lines = 3

Example 2:

File content (sample2.txt):

This is line one

This is line two

Output:

Number of lines = 2

Now write a Python function that:

- Reads a .txt file
- Counts the total number of lines in the file
- Returns the line count"""

Code:

```
• Returns the line count"""
def count_lines_in_file(file_path):
    try:
        with open(file_path, 'r') as file:
            lines = file.readlines()
            line_count = len(lines)
            return line_count
    except FileNotFoundError:
        return "File not found. Please check the file path."
```

Output: