AI Assisted Coding

Lab test - 1

Name: Gopi chand

Roll no: 2403a51237

Batch no: 11

Task:1

Question:1

Write a Python code to calculate the sum of odd and even numbers in a given list using GitHub Copilot along with VS Code. Use zero shot prompting.

Prompt:

# Write a Python function to calculate the sum of odd and even numbers in a given list

Code:

def sum\_odd\_even(numbers):

even\_sum = 0

odd\_sum = 0

for num in numbers:

if num % 2 == 0:

even\_sum += num

else:

odd\_sum += num

return even\_sum, odd\_sum

# Example usage

numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

even\_sum, odd\_sum = sum\_odd\_even(numbers)

print("Sum of even numbers:", even\_sum)

print("Sum of odd numbers:", odd\_sum)

output:

Sum of even numbers: 30

Sum of odd numbers: 25

Task:2

Question:2

Write a Python code for given a list of integers, remove duplicates and print the sorted result. GitHub Copilot along with VS Code. Use one shot prompting.

Prompt:

# Example: input [4, 2, 2, 5, 1, 4] -> output [1, 2, 4, 5]

# Write a Python function to remove duplicates from a list of integers and print the sorted result

Code:

def remove\_duplicates\_and\_sort(numbers):

unique\_numbers = sorted(set(numbers))

print(unique\_numbers)

# Example usage

numbers = [4, 2, 2, 5, 1, 4]

remove\_duplicates\_and\_sort(numbers)

output:

[1, 2, 4, 5]

Task:3

Question:3

Write a Python function that converts the temperature between Celsius, Fahrenheit, and Kelvin based on user choice. Use the Cursor AI tool. Use few shot prompting.

Prompt:

# Example 1: convert\_temperature(0, "C", "F") -> 32.0

# Example 2: convert\_temperature(100, "C", "K") -> 373.15

# Example 3: convert\_temperature(212, "F", "C") -> 100.0

# Write a Python function that converts the temperature between Celsius, Fahrenheit, and Kelvin based on user choice

Code:

def convert\_temperature(value, from\_unit, to\_unit):

# Convert input to Celsius first

if from\_unit == "C":

celsius = value

elif from\_unit == "F":

celsius = (value - 32) \* 5/9

elif from\_unit == "K":

celsius = value - 273.15

else:

raise ValueError("Invalid from\_unit. Use 'C', 'F', or 'K'.")

# Convert Celsius to target unit

if to\_unit == "C":

return celsius

elif to\_unit == "F":

return (celsius \* 9/5) + 32

elif to\_unit == "K":

return celsius + 273.15

else:

raise ValueError("Invalid to\_unit. Use 'C', 'F', or 'K'.")

# Example usage

print(convert\_temperature(0, "C", "F")) # 32.0

print(convert\_temperature(100, "C", "K")) # 373.15

print(convert\_temperature(212, "F", "C")) # 100.0

output:

32.0

373.15

100.0

Task:4

Question:4

Write a Python function to remove punctuation, convert to lowercase, and remove stop words from a given text. Use the Cursor AI tool. Use zero shot prompting.

Prompt:

# Write a Python function to remove punctuation, convert text to lowercase, and remove stop words from a given string

Code:

import string

def clean\_text(text):

stop\_words = {"a", "an", "the", "and", "or", "is", "are", "was", "were", "in", "on", "at", "to"}

# Remove punctuation

text = text.translate(str.maketrans("", "", string.punctuation))

# Convert to lowercase

text = text.lower()

# Remove stop words

words = text.split()

filtered\_words = [word for word in words if word not in stop\_words]

return " ".join(filtered\_words)

# Example usage

sample\_text = "The quick brown fox jumps over the lazy dog, and it was amazing!"

print(clean\_text(sample\_text))

output:

quick brown fox jumps over lazy dog it amazing