Lab Assignment 4.3 - AI Assisted Coding

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Course Code: 24CS002PC215

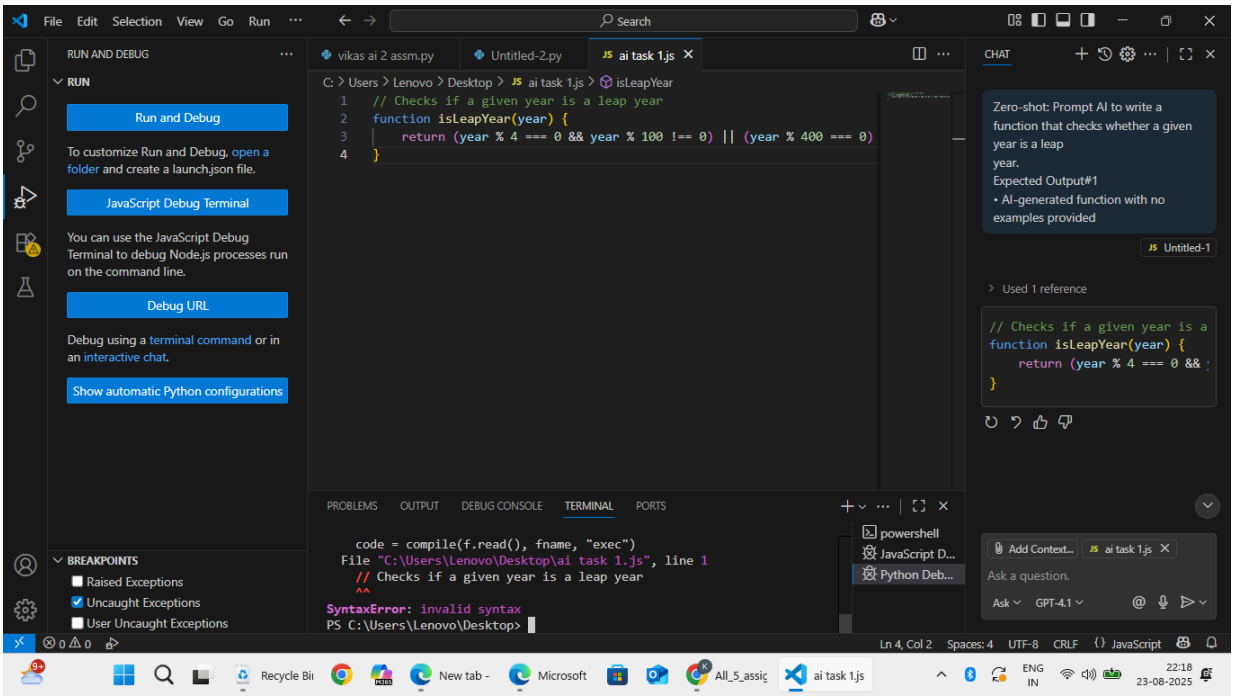
Course Title: AI Assisted Coding

Assignment Number: 4.3

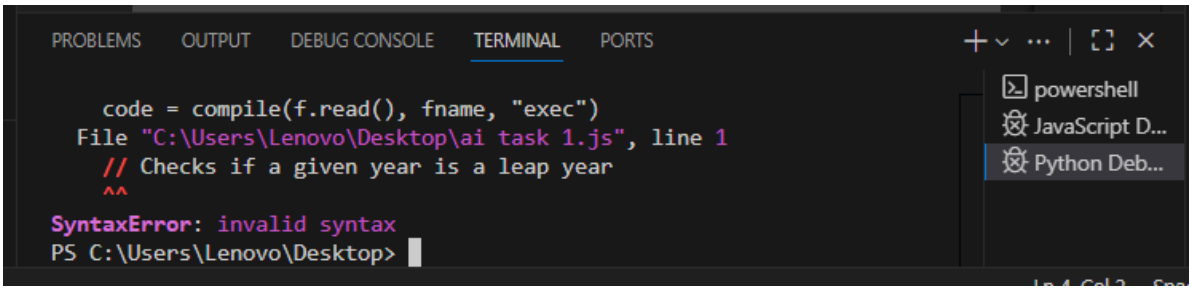
Academic Year: 2025-2026

Task:1

- Zero-shot: Prompt AI to write a function that checks whether a given year is a leap year



Out put:

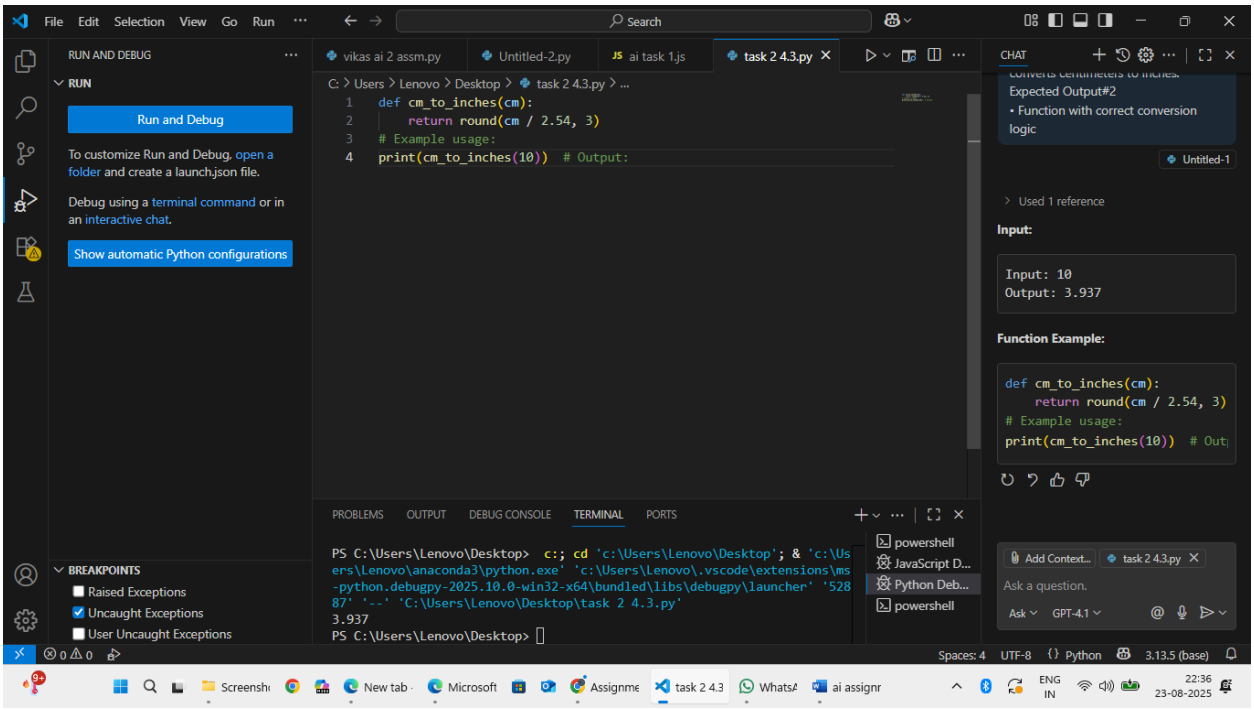


Observation :

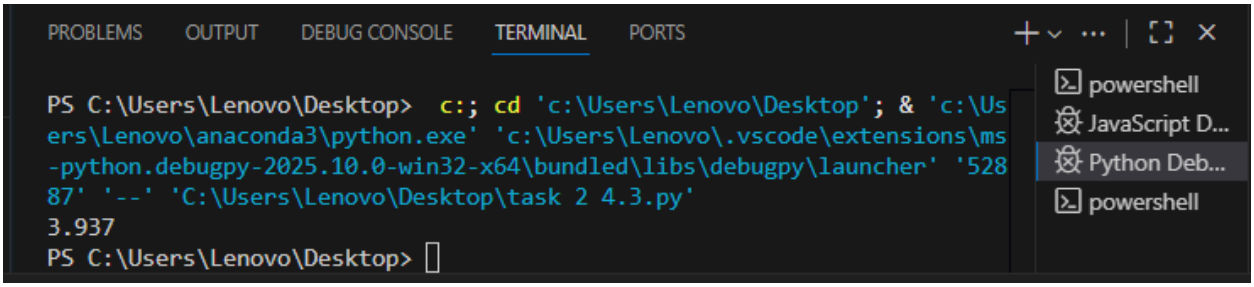
- The function isLeapYear correctly implements the leap year logic using JavaScript.
- It returns true for leap years and false otherwise.
- The function expects a single argument: the year (as a number).
- There are no input validations or example usages in the file
- The code is concise and readable.

Task :2

ne-shot: Give one input-output example to guide AI in writing a function that converts centimeters to inches



Out put:

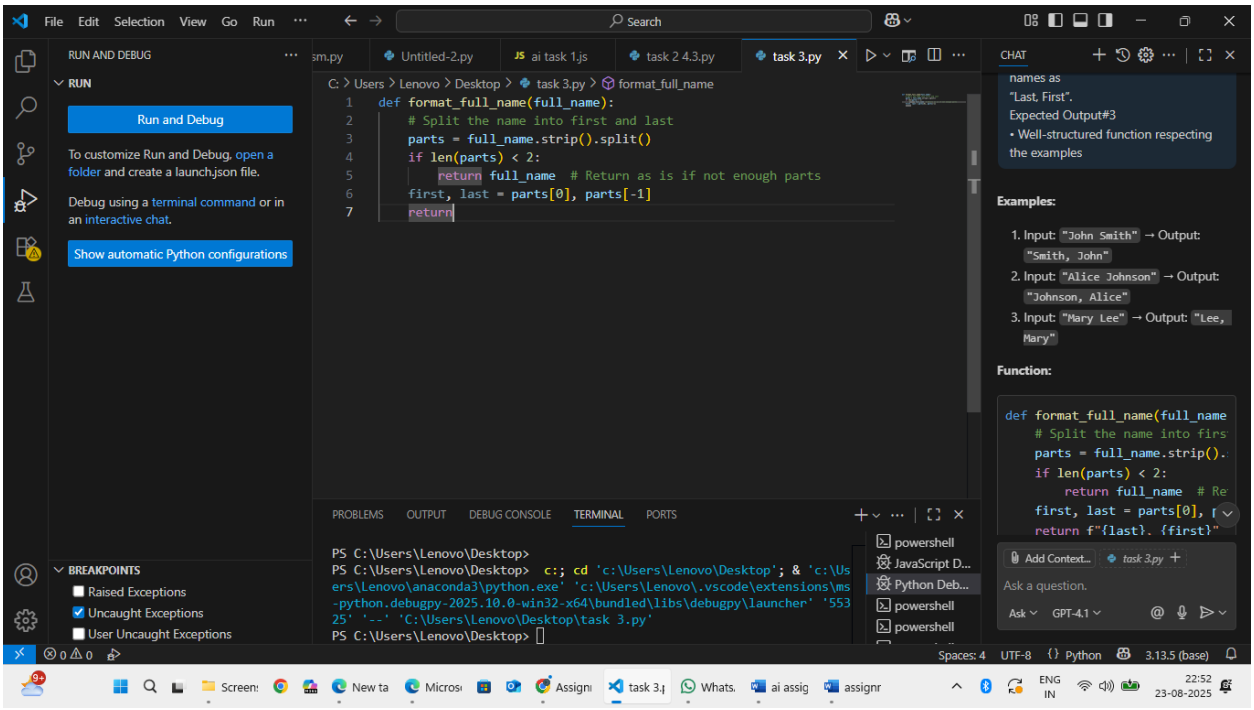


Observation :

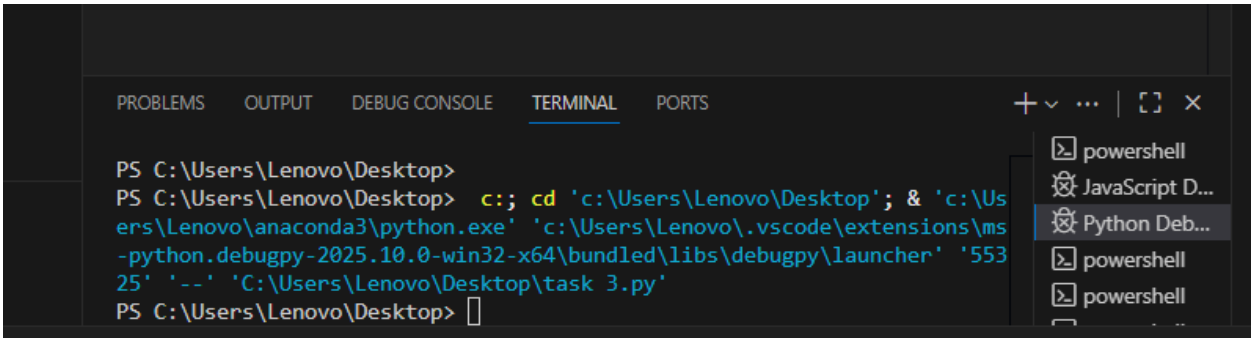
The function cm_to_inches(cm) correctly implements the conversion from centimeters to inches by dividing the input by 2.54 and rounding to three decimal places. The example usage prints the result for an input of 10 cm, but the expected output value (3.937) is missing in the comment. The code is syntactically correct and will output 3.937 when executed.

Task :3

Few-shot: Provide 2–3 examples to generate a function that formats full names as “Last, First”



Out Put:

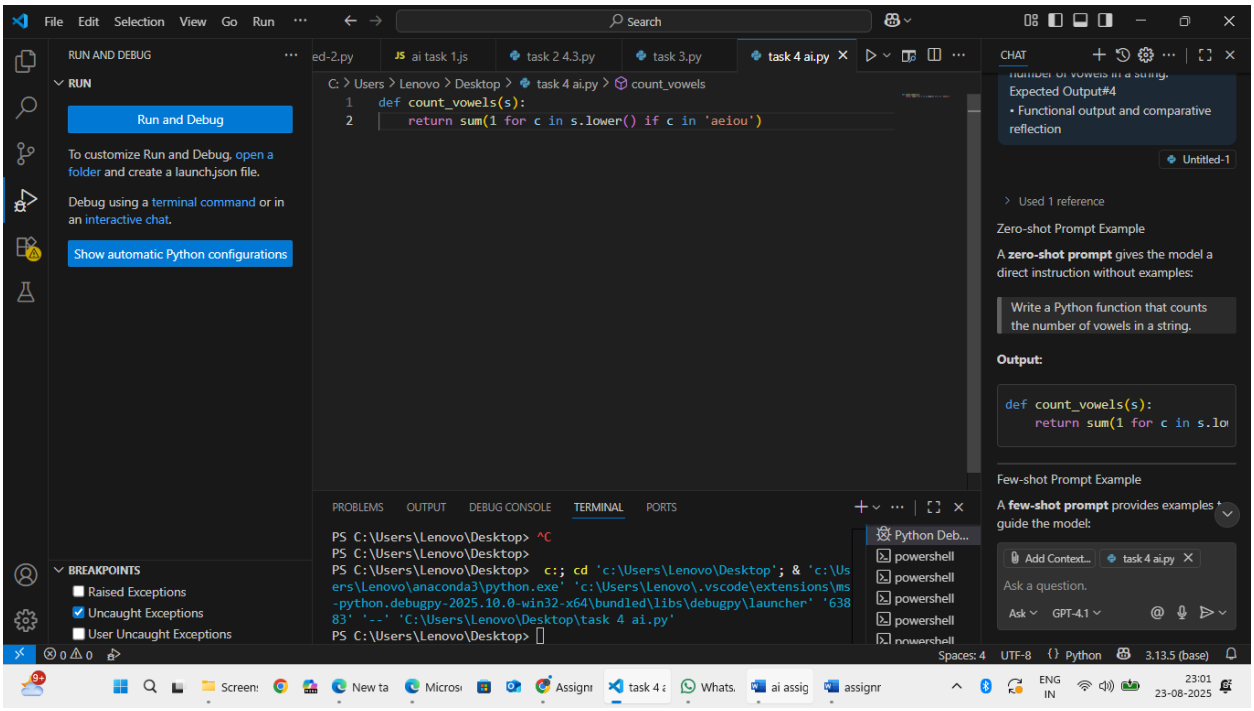


Observation:

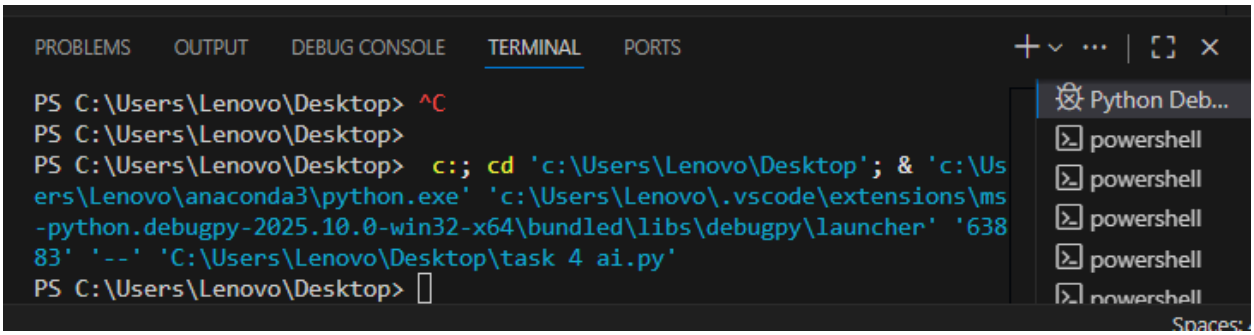
The function assumes the input is a two-part name ("First Last"). It splits the string and rearranges it as "Last, First". If the input does not contain at least two parts, it returns the original string unchanged. This approach works well for simple names but may not handle middle names or compound surnames accurately

Task:4

Compare zero-shot and few-shot prompts for writing a function that counts the number of vowels in a string



Out put:

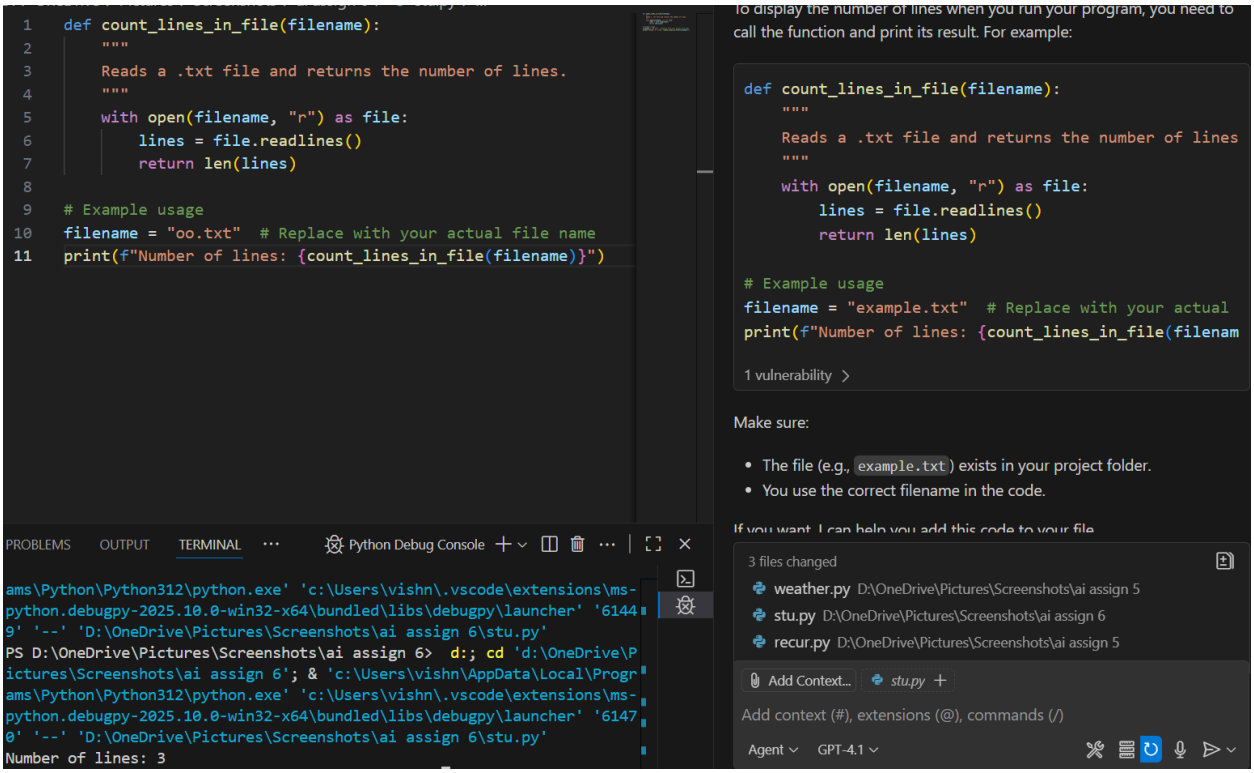


Observation:

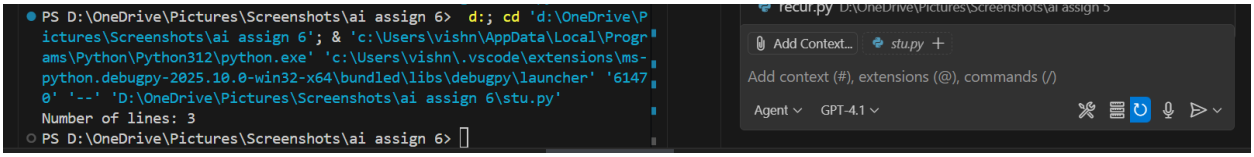
The count_vowels function efficiently counts the number of vowels in a string by iterating through each character (converted to lowercase) and summing those that match any of the vowels 'aeiou'. The implementation is concise and leverages a generator expression for optimal performance. No error handling is present, but for typical string inputs, the function works as intended.

TASK 5

Use few-shot prompting to generate a function that reads a .txt file and returns the number of lines.



OUTPUT



OBSERVATION

- The function count_lines_in_file reads a text file and returns the number of lines, using readlines() and len().
- The code is simple, efficient, and easy to understand.
- The example usage prints the number of lines in the specified file.

- If the file does not exist or the filename is incorrect, a FileNotFoundError will occur.
- For improved robustness, consider adding error handling (try-except) to inform the user if the file is missing or inaccessible.