**Technical Design**

**Name:** Livia Augusto Razera

**Date Created:** June 26, 2025

**Program Description:**

This program prompts users to enter a paragraph, including sentences that may begin numbers. It uses regular expressions to split the paragraph into individual sentences, then displays each sentence separately along with the total number of sentences.

**Functions used in the Program (list in order as they are called):**

**1. Function Name: split\_into\_sentences**

**Description:**Splits a paragraph into individual sentences using a regular expression that handles common sentence-ending punctuation and avoids incorrect splits at abbreviations or initials.

**Parameters:** paragraph (string): The text input from the user containing multiple sentences.

**Variables:**

sentence\_pattern (compiled regex): A regular expression that identifies sentence boundaries.

sentences (list): A list of sentence strings extracted from the paragraph.

**Logical Steps:**

1. Compile a regex pattern that: Splits on ., ?, or ! followed by a space. Avoids splitting after common abbreviations and initials.
2. Strip any leading/trailing whitespace from the paragraph.
3. Split the paragraph into sentences using the regex pattern.
4. Strip whitespace from each sentence and return the list.

**Returns:** A list of cleaned, individual sentences (list of str).

**2. Function Name: display\_sentences**

**Description:** Prints each sentence from the list on a new line, numbered, and displays the total count of sentences.

**Parameters:** sentences (list): The list of sentences to display.

**Variables:**

i (int): Index used for numbering each sentence during display.

sentence (string): The current sentence being printed.

**Logical Steps:**

1. Print a header for sentence output.
2. Enumerate through each sentence in the list and print with a line number.
3. Print the total number of sentences at the end.

**Returns:** None

**3. Function Name: main**

**Description:**Handles overall program execution by prompting the user for input, processing the input into sentences, and displaying the results.

**Parameters:** None

**Variables:**

paragraph (string): User's input paragraph.

sentences (list): The list of sentences returned by split\_into\_sentences.

**Logical Steps:**

1. Prompt the user to input a paragraph.
2. Call split\_into\_sentences() to process the input.
3. Call display\_sentences() to display each sentence and the total.

**Returns:** None

**Logical Steps:**

1. Program starts by calling the main() function.
2. main() prompts the user to enter a paragraph.
3. The input is passed to split\_into\_sentences() for processing.
4. The resulting sentence list is passed to display\_sentences() for display.
5. Each sentence is printed on a new line with numbering.
6. The program prints the total number of sentences.

**Link to your repository:** <https://github.com/liviaar/COP2373.git>

**Output Screenshot:**

**A screenshot of a computer program

AI-generated content may be incorrect.**