Technical Design Document #7

Paul Campos

Date Created: June 29, 2025

# Program Description:

This program allows the user to enter a paragraph. It uses a regular expression (regex) to extract and identify individual sentences, including those that begin with capital letters or numbers. After extracting the sentences, the program displays each sentence and reports the total number of sentences found. This is helpful for basic sentence parsing and analysis, particularly when dealing with informal or mixed-format writing where some sentences may begin with digits.

# Functions used in the Program (listed in order of execution):

## 1. Function Name: split\_sentences

Description: Identifies and extracts individual sentences from the user-provided paragraph using a regular expression.

Parameters: paragraph (str): The full paragraph input by the user.

Variables:  
- pat (str): Regex pattern to match sentences that start with a capital letter or number and end with ., !, or ?.  
- sentences (list): A list of strings where each item is a matched sentence from the paragraph.

Logical Steps:  
1. Define a regular expression pattern to match sentences starting with capital letters or digits and ending with standard punctuation.  
2. Use re.findall() with the re.DOTALL | re.MULTILINE flags to handle multi-line input and dot (.) matching newlines.  
3. Return the list of sentences found.

Returns: sentences (list): A list of extracted sentences.

## 2. Function Name: display\_sentences

Description: Displays the total number of sentences and prints each sentence on its own line.

Parameters: sentences (list): A list of sentences to be displayed.

Variables:  
- sentence (str): Each sentence string from the list being printed in the loop.

Logical Steps:  
1. Print the total count of sentences using len(sentences).  
2. Iterate through the list and print each sentence individually.

Returns: None

## 3. Function Name: main

Description: Main driver function that coordinates user input, sentence extraction, and display.

Parameters: None

Variables:  
- paragraph (str): The paragraph input from the user.  
- sentences (list): List of sentences returned by split\_sentences().

Logical Steps:  
1. Prompt the user to enter a paragraph.  
2. Call split\_sentences(paragraph) to extract sentences.  
3. Call display\_sentences(sentences) to show output.

Returns: None

# Logical Steps:

1. main() is executed when the script is run.  
2. Inside main(), split\_sentences() is called to process the paragraph.  
3. Then display\_sentences() is called to print the results.

Link to your repository:

[CampsPA/Paul\_Campos\_Programming\_Exercise7](https://github.com/CampsPA/Paul_Campos_Programming_Exercise7)

Screenshot:

A screenshot of a computer

AI-generated content may be incorrect.