**Programming Exercise 2**

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**Program Description**

This Python program analyzes an email message provided by the user and calculates a "spam score" based on the number of spammy words and phrases it contains. It utilizes a predefined list of 30 common spam terms. Each time one of these terms appears in the message, the spam score increases. At the end of the analysis, the program estimates the likelihood that the message is spam and highlights the specific keywords that contributed to the score.

**Function Descriptions**

1. calculate\_spam\_score(message, spam\_keywords)

Purpose: Scans the message for known spam keywords.

Parameters:

message (string): The email message provided by the user.

spam\_keywords (list of strings): List of 30 spam words/phrases.

Returns:

score (int): Total number of spam keyword occurrences.

spam\_words\_found (list): List of spam words found in the message.

2. rate\_spam\_likelihood(score)

Purpose: Determines how likely the message is spam based on the score.

Parameters:

score (int): Spam score calculated from the previous function.

Returns:

A string representing the spam likelihood (e.g., “High likelihood of spam”).

3. main()

Purpose: Acts as the main entry point for the program.

Performs:

Collects user input.

Calls other functions to process and display results.

**Logical Steps of the Program**

1. Start the program and print a header.
2. Prompt the user to input an email message.
3. Convert the message to lowercase to ensure keyword matching is case-insensitive.
4. Check for each spam keyword in the message.
5. Count each appearance and add to a running score.
6. Generate a list of matched keywords.
7. Rate the overall likelihood that the message is spam based on the total score.
8. Display the results to the user: spam score, spam likelihood, and detected spam words.

**Link to COP2373 Repository**

<https://github.com/Shinymon/COP2373>

**Screenshot**

A screenshot of a computer

AI-generated content may be incorrect.