Technical Design Document Programming Exercise 2  
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**Program Description:**  
This program scans an email message for common spam words and phrases, calculates a spam score, and determines the likelihood of the message being spam. The program checks for occurrences of 30 predefined spam keywords or phrases taken from the website: https://www.activecampaign.com/blog/spam-words, increments the spam score accordingly, and then provides an assessment of how likely the email is spam. The program includes two main functions to handle spam detection and scoring.

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

1. **Function Name: calculate spam score(email message)**
   * **Description:** This function checks the email message for spam-related words and calculates the spam score.
   * **Parameters:**
     + email message (str): The input email message provided by the user.
   * **Variables:**
     + spam score (int): Keeps track of the number of spam-related words found.
     + detected words (list): A list of spam words/phrases detected in the email.
     + email message lower (str): The email message converted to lowercase for case-insensitive matching.
   * **Logical Steps:**
     1. Convert the email message to lowercase.
     2. Iterate through the predefined spam word list and check for matches.
     3. If a match is found, increase the spam score and store the detected word.
     4. Return the spam score and the detected spam words.
   * **Returns:**
     + spam score (int): The total spam score based on keyword occurrences.
     + detected words (list): A list of matched spam words/phrases.
2. **Function Name: determine spam likelihood(score)**
   * **Description:** This function determines the likelihood of the email being spam based on the spam score.
   * **Parameters:**
     + score (int): The spam score calculated from the email message.
   * **Variables:** None.
   * **Logical Steps:**
     1. If score is 0, return "Not Spam".
     2. If score is between 1 and 3, return "Low Risk of Spam".
     3. If score is between 4 and 6, return "Moderate Risk of Spam".
     4. If score is between 7 and 10, return "High Risk of Spam".
     5. If score is above 10, return "Very High Risk of Spam".
   * **Returns:**
     + (str): A message indicating the spam likelihood level.

**Logical Steps of the Program:**

1. Prompt the user to enter an email message.
2. Calculate spam score() to scan the email for spam words and calculate the spam score.
3. Determine spam likelihood() to assess the likelihood of the message being spam.
4. Display the spam score, spam likelihood message, and any detected spam words.

**Link to repository:** https://github.com/CarsonHarbin/COP2373