**Exercise: Word Frequency Analyzer**

In this exercise, you will create a word frequency analyzer program that utilizes various data structures and loops in Python.

Instructions:

1. Prompt the user to enter a paragraph of text.

2. Split the paragraph into individual words and store them in a list called `words`.

3. Create a dictionary called `word\_frequency` to store the frequency of each word in the paragraph. The keys of the dictionary will be the words, and the values will be the corresponding frequencies.

4. Use a for loop to iterate over the `words` list. Update the `word\_frequency` dictionary by incrementing the frequency count for each word encountered.

5. Create a set called `unique\_words` to store the unique words in the paragraph. Iterate over the `words` list using a for loop and add each word to the set.

6. Display the word frequency count for each word in the `word\_frequency` dictionary.

7. Display the total number of unique words in the `unique\_words` set.

8. Use a while loop to provide the user with the option to search for the frequency of a specific word in the paragraph. Prompt the user to enter a word to search or enter 'exit' to end the program. If the word is found in the `word\_frequency` dictionary, display its frequency count. If the word is not found, display a message indicating it's not present in the paragraph.

9. After the user exits the program, display a farewell message.

Example Output:

| Welcome to the Word Frequency Analyzer!  Enter a paragraph of text: The quick brown fox jumps over the lazy dog. The dog is lazy.  Word Frequency: - the: 2 - quick: 1 - brown: 1 - fox: 1 - jumps: 1 - over: 1 - lazy: 2 - dog: 2 - is: 1  Total unique words: 9  Enter a word to search or enter 'exit' to end: dog Frequency of 'dog': 2  Enter a word to search or enter 'exit' to end: cat Word 'cat' not found in the paragraph.  Enter a word to search or enter 'exit' to end: exit  Thank you for using the Word Frequency Analyzer! Goodbye! |
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Code Template:

| print("Welcome to the Word Frequency Analyzer!\n")  paragraph = input("Enter a paragraph of text: ")  *# Split the paragraph into individual words* words = *# Your Code*  *# Create a dictionary to store word frequency* word\_frequency = {} for word in words:  *# Your code*  *# Create a set to store unique words* unique\_words = *# Your code*  print("\nWord Frequency:") *# Your code logic for displaying frequency of each words*  print(f"\nTotal unique words: {len(unique\_words)}\n")  while True:  search\_word = input("Enter a word to search or enter 'exit' to end: ")   if search\_word == "exit":  print("\nThank you for using the Word Frequency Analyzer! Goodbye!")  break   if search\_word in word\_frequency:  print(f"Frequency of '{search\_word}': {word\_frequency[search\_word]}\n")  else:  print(f"Word '{search\_word}' not found in the paragraph.\n") |
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