

Task 5

Word Count Tool

1. Objective: Create a program that counts words in a given text.
2. Features:
 - Accept input text from the user or a file.
 - Count the number of words and display the result.
 - Handle punctuation and case sensitivity for accurate word counting.
 - Consider implementing a function to encapsulate the word counting logic.
 - Provide informative messages to guide the user.
 - Include error handling for file not found or empty text.
 - Allow the user to input multiple texts in a single run.
 - Encourage the intern to explore different approaches to word counting.

Program:

```
import string
```

```
def count_words(text):
```

```
    """
```

```
    Counts the number of words in the provided text.
```

```
    Args:
```

```
    - text (str): The text in which to count words.
```

```
    Returns:
```

```
    - int: The number of words in the text.
```

```
    """
```

```
    # Remove punctuation using str.maketrans and translate
```

```
    translator = str.maketrans("", "", string.punctuation)
```

```
    cleaned_text = text.translate(translator)
```

```
# Split the text into words and count them
```

```
words = cleaned_text.split()
```

```
return len(words)
```

```
def read_text_from_file(filename):
```

```
    """
```

```
    Reads text from a file.
```

```
    Args:
```

```
    - filename (str): The path to the file.
```

```
    Returns:
```

```
    - str: The content of the file.
```

```
    """
```

```
    try:
```

```
        with open(filename, 'r') as file:
```

```
            return file.read()
```

```
    except FileNotFoundError:
```

```
        print(f"Error: File '{filename}' not found.")
```

```
        return None
```

```
def get_input_text():
```

```
    """
```

```
    Prompts the user to choose between inputting text directly or from a file.
```

```
    Returns:
```

```
    - str: The text provided by the user.
```

```
    """
```

```
choice = input("Enter '1' to input text directly or '2' to read from a file: ").strip()
if choice == '1':
    return input("Enter your text: ").strip()
elif choice == '2':
    filename = input("Enter the file name: ").strip()
    return read_text_from_file(filename)
else:
    print("Invalid choice. Please enter '1' or '2'.")
    return None
```

```
def main():
    """
    Main function to run the word counting program.
    """
    print("Welcome to the Word Counting Program!")
```

```
while True:
    text = get_input_text()

    if text is not None:
        if text:
            word_count = count_words(text)
            print(f"Number of words: {word_count}")
        else:
            print("The provided text is empty.")

    if input("Do you want to count words in another text? (y/n): ").strip().lower() != 'y':
        print("Thank you for using the Word Counting Program. Goodbye!")
        break
```

```
if __name__ == "__main__":  
    main()
```

Output:

Welcome to the Word Counting Program!

Enter '1' to input text directly or '2' to read from a file:

1

Enter your text:

hello

Number of words: 1

Do you want to count words in another text? (y/n):

n

Thank you for using the Word Counting Program. Goodbye!

=== Code Execution Successful ===