**Word Counting Program Instructions**

Objective: Write a Python program that reads a text file, counts the number of words, and displays statistics about the word occurrences.

Requirements:

The program should prompt the user to enter the path of the text file.

Read the text from the file and process it to count the number of words.

Display the following statistics:

Total number of words.

A number of unique words.

List of all words along with their occurrences.

Console Output Example:

Enter the file path: C:\SomeDir\hello.txt

Number of words: 66

Number of unique words: 54

All words used:

Benefactor 2

in 1

total 1

You 1

mustard 1

It's 1

if 3

1 more

...

# Solution

|  |  |
| --- | --- |
|  | # File Word Counting Program  import os  def get\_words(filename):  with open(filename, encoding="utf8") as file:  text = file.read()  text = text.replace("\n", " ")  text = text.replace(",", "").replace(".", "").replace("?", "").replace("!", "")  text = text.lower()  words = text.split()  words.sort()  return words  def get\_words\_dict(words):  words\_dict = dict()  for word in words:  if word in words\_dict:  words\_dict[word] = words\_dict[word] + 1  else:  words\_dict[word] = 1  return words\_dict  def main():  filename = input("Enter file path: ")  if not os.path.exists(filename):  print("Specified file does not exist")  else:  words = get\_words(filename)  words\_dict = get\_words\_dict(words)  print(f"Number of words: {len(words)}")  print(f"Number of unique words: {len(words\_dict)}")  print("All words used:")  for word in words\_dict:  print(word.ljust(20), words\_dict[word])  if \_\_name\_\_ == "\_\_main\_\_":  main() |

Here, the get\_words() function performs the initial segmentation of the text into words. In this case, all punctuation marks are removed, and translations of stocks are replaced with spaces. Then the text is broken into words. The default separator is a space.

Next, in the get\_words\_dict() function, we get a dictionary of words, where the key is a unique word, and the value is the number of occurrences of this word in the text.

In the main function, you enter the path to the file and call the above functions, as well as display all statistics.

Console output of the program:

Enter the file path: C:\SomeDir\hello.txt

Number of words: 66

Number of unique words: 54

All words used:

Benefactor 2

in 1

total 1

You 1

mustard 1

Its 1

if 3

1 more

.......................