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My Programming Assignment 2 Report: Vowel Count Using String Operations

I developed a C project to delve into the intricacies of text processing, aiming to unravel the mysteries hidden within textual data. Throughout this endeavor, I embarked on a journey of discovery, encountering various challenges and insights along the way. Below is a summary of my approach:

Dynamic Memory Management:

In crafting this project, I ventured into the realm of dynamic memory allocation. With the creation of the enlarge() function, I learned to navigate the complexities of memory management, ensuring the seamless expansion of buffers to accommodate diverse text files.

Processing Input File:

As I traversed through the lines of the input file, I encountered a myriad of characters, each holding a story of its own. With meticulous precision, I filtered out non-alphabetic characters and standardized letter cases, laying the groundwork for subsequent analyses.

Character Frequency Analysis:

The heart of my project lay in unraveling the frequency of characters and patterns within the text. By dissecting continuous sequences of characters and tallying the occurrences of vowels, I unearthed insights into the underlying structures of language.

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Dealing with Outputs:

With each analysis, I sought to capture the essence of the text and present it in a comprehensible manner. From printing results to the console to saving processed text in an output file, every step was a testament to my commitment to clarity and accessibility.

Organizing the Code:

In structuring the code, I employed a modular approach, akin to assembling pieces of a puzzle. Each function played a vital role, contributing to the overall coherence and readability of the project. Through meticulous organization, I empowered myself to tackle complex problems with confidence.

Conclusion:

n essence, this project transcended mere code; it was a voyage of self-discovery and intellectual growth. With each line written and each challenge overcome, I ventured further into the boundless realms of programming, eager to unravel new mysteries and chart unexplored territories.

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The following includes the result of my assignment.

```
>>> Total input English characters: 6161.
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>>> The first 800 characters are:
  THEGIFTOFTHEMAGIBYOHENRYONEDOLLARANDEIGHTYSEVENCENTSTHATWASALLANDSIXTYCENTSOFITI
  NTHESMALLESTPIECESOFMONEYPENNIESPENNIESSAVEDONEANDTWOATATIMEBYNEGOTIATINGWITHTHE
  MENATTHEMARKETWHOSOLDVEGETABLESANDMEATNEGOTIATINGUNTILONESFACEBURNEDWITHTHESILEN
  TKNOWLEDGEOFBEINGPOORTHREETIMESDELLACOUNTEDITONEDOLLARANDEIGHTYSEVENCENTSANDTHEN
  EXTDAYWOULDBECHRISTMASTHEREWASCLEARLYNOTHINGTODOBUTSITDOWNANDCRYSODELLACRIEDWHIC
  HLEDTOTHETHOUGHTTHATLIFEISMADEUPOFLITTLECRIESANDSMILESWITHMORELITTLECRIESTHANSMI
  LESDELLAFINISHEDHERCRYINGANDDRIEDHERFACESHESTOODBYTHEWINDOWANDLOOKEDOUTUNHAPPILY
  ATAGRAYCATWALKINGALONGAGRAYFENCEINAGRAYBACKYARDTOMORROWWOULDBECHRISTMASDAYANDSHE
  HADONLYONEDOLLARANDEIGHTYSEVENCENTSTOBUYHERHUSBANDJIMAGIFTSHEHADBEENSAVINGEVERYP
  ENNYSHECOULDFORMONTHSWITHTHISRESULTJIMEARNEDTWENTYDOLLARSAWEEKWHICHDOESNOTGOFARE

****************************************************************

>>>> The number of continues letter(s) are:
  One character: 5691
  Two continueous character: 232
  Three continueous character: 2
  Four or more continueous character: 0
  **** Total character counts: 6161
****************************************************************

>>>> The number of occurences of vowels:
  Vowel 'A': 501
  Vowel 'E': 774
  Vowel 'I': 411
  Vowel 'O': 471
  Vowel 'U': 169
  **** Total vowel count: 2326
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Process exited after 0.04757 seconds with return value 0
Press any key to continue . . .
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