

CS101

Project 1 Report
(TEXT ANALYSIS)



Section G1

Faculty Computer Engineering

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ACKNOWLEDGEMENT

We would like to express our gratitude to the development team and all contributors who have contributed to the successful completion of the Text Analysis system.

Introduction

In a generation ruled by sizeable quantities of textual facts, the want for efficient textual content analysis tools has become paramount. This report introduces a C++ application designed to perform complete text analysis on input paragraphs. The primary functionalities of this program include merging the two paragraphs, calculating the count of vowels, figuring out occurrences of a particular word, producing a histogram to visualize word frequencies, and reversing the complete paragraph. By way of harnessing the energy of C++, this program aims to offer a sturdy solution for customers looking for beneficial insights into the linguistic factors in their textual content. The following sections delve into the program's layout, implementation, and key capabilities, dropping mild on its application in text analysis.



Methodology

Programming Language: C++

User Interface: Console-based

Libraries:

- 1) String library
- 2) Sstream library
- 3) Vector library
- 4) Algorithm Library
- 5) Map Library

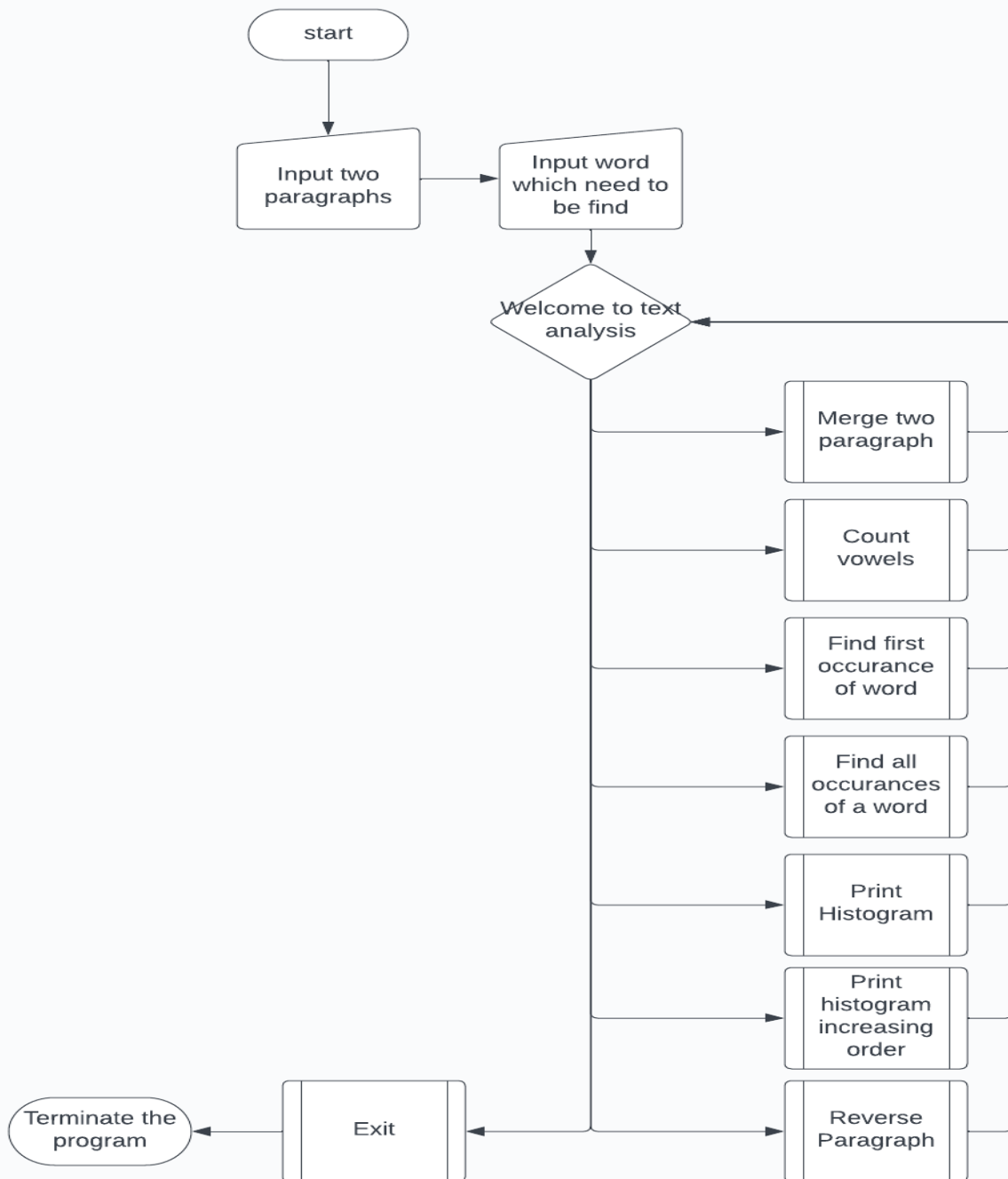
The system follows a modular architecture with distinct functions for user actions and menu display. Key components include inputting paragraphs, merging them, Counting Vowels, Finding the Location of a particular word, printing a histogram, and last but not least reversing the paragraph.

FUTURE ENHACEMENT

Future enhancement for this text analysis can be as follow:

- Detecting AI Text
- Replacing the word with another word
- Counting the total words in paragraph
- Design the text

FLOWCHART



USER INTERFACE

The user enter paragraph and the word he need to find in paragraph

```
Enter 1st Paragraph:
My name is Fahad.I am studying in Giki.
Enter 2nd Paragraph:
Giki is very beautiful. It is situated in KPk.
Enter word you need to find location of: Giki
```

```
~~~~~Text Analysis~~~~~
1)Merge both Paragraph
2)Count the vowels
3)Find Location of first Occurrence of word
4)Find Location of all Occurrence of word
5)Create Histogram
6)Create Histogram in Increasing order
7)Reverse the paragraph
8)Exit
Enter choice: 
```

After that the following menu appears from where user can choose any option

By clicking the merge both paragraph, the program merge both paragraph

```
Enter choice: 1
Merged para is:
My name is Fahad.I am studying in Giki. Giki is very beautiful. It is situated in KPk.
```

The user can count the vowels from this interface and he can also decide from which para he need to count vowels.

```
Enter choice: 2
From which para you need to find vowels:
1)Paragraph 1
2)Paragraph 2
3)Merged Paragraph
Enter your choice: 3
vowels in this paragraph are 28
```

```

Enter choice: 3
Which Paragraph you need to find first occurrence:
1)Paragraph 1
2)Paragraph 2
3)Merged Paragraph
Enter your choice: 1
The first occurrence of 'Giki' is 34

```

The user can find the first occurrence of the word.

Moreover, the user can also find all occurrence of a particular word

```

Enter choice: 4
The word "is" was found at the following positions: 8 44 61

```

The user can print the histogram of words

```

Enter choice: 5
Word Count Histogram in increasing order of words:
am: *
beautiful.: *
fahad.: *
giki.: *
i: *
in: **
is: ***
it: **
kpk.: *
my: *
name: *
situated: *
studying: *

```

```

Enter choice: 6
Which para you need to find histogram of:
1)Paragraph 1
2)Paragraph 2
3)Merged Paragraph
Enter your choice: 3
Word Histogram (Increasing Order):
am: *
beautiful.: *
fahad.: *
giki.: *
i: *
kpk.: *
my: *
name: *
situated: *
studying: *
in: **
it: **
is: ***

```

The user can also print the histogram in increasing order.

The user can reverse the paragraph of his own choice

```
Enter choice: 7
Which Paragraph you need to reverse:
1)Paragraph 1
2)Paragraph 2
3)Merged Paragraph
Enter your choice: 3
Reversed paragraph: yM eman si .dahaF I ma gniyduts ni .ikiG tI si .lufituaeb tI si detautis ni .kpk
```

Finally, the user can exit the program if he don't want to further do text analysis

```
Enter choice: 8
Exiting the program. Thank you!
```

CONCLUSION

Text analysis is critical for extracting insights from big textual records. It aids in information extraction, sentiment analysis, and client remarks evaluation, reaping benefits businesses in advertising, customer service, and product development. In market studies, it identifies tendencies, at the same time as in finance, it monitors dangers and marketplace developments. Healthcare makes use of it for biomedical studies, and legal specialists rent it for report analysis. HR benefits from streamlined hiring strategies. Text evaluation performs a key function in fraud detection, content categorization, and summarization. Usual, it's far critical for knowledgeable choice-making, performance development, and understanding traits in numerous fields.