

Laboratory Exercise 5: Substring Counting

Introduction

In formal language theory and computer science, a substring is a contiguous sequence of characters within a string.[citation needed] For instance, "the best of" is a substring of "It was the best of times". In contrast, "Itwastimes" is a subsequence of "It was the best of times", but not a substring. (more on [Substring - Wikipedia](#))

Learning Outcomes:

- Implement counting of substrings using native x86 string instructions
- Display the output of the operation from numeric to string format

Implementation Guide:

Display a guide for the user to perform input.

Ask the user for the source string and the destination string

Count the substring(s) of the source using the destination string

Display the output numeric count in memory or register in string format (i.e. 65 is a string output, while 'A' is a numeric equivalent displayed as ASCII character). For simplicity, limit the substring count to 255 items.

Ask the user if the process would be repeated.

Sample output:

```
Source: It was the best of times
Destination: the best of
Count: 1
Try Again? [Y/N]
```