ES 112.02/04 Homework #6
Fall 2003-2004

Searching a Substring

Your task in this homework is to write a computer program that searches for the first occurrence of a substring inside a given string. The work consists of two parts:

Write the Function

Write a C function with the name `strstr` that takes two character array arguments, and returns an integer. In other words, the prototype of the function should be:

```
int strstr(char string[], char substring[]);
```

Assume that both character arrays contain null-terminated strings. The function should search for `substring` within `string`, and return the index of the first character within `string` where `substring` occurs. If `substring` can not be found in `string`, the function should return -1.

So, if `string = ''Yeditepe''` and `substring = ''tep''`, the function should return 4 because `''tep''` exists inside `''Yeditepe''` starting at character index 4 (which is the `t`).

Complete the Program

Write a C program that includes (and uses) the above function. The program should ask the user to enter two strings. Then it should look to see whether the second string is a substring of the first string, and print either the location of the substring as an index, or report that the second string is not a substring of the first string. Your string arrays should be able to hold at least 79 characters that are entered by the user.

Sample runs should look as follows:

```
Enter a string: Yeditepe
Enter the substring to be searched for: tep

tep is a substring of Yeditepe starting at index 4.
```

Or, another case:

```
Enter a string: Tom and Jerry
Enter the substring to be searched for: um

um is not a substring of Tom and Jerry.
```

And one final example:

```
Enter a string: She sells sea shells at the seashore
Enter the substring to be searched for: he

se is a substring of She sells sea shells at the seashore at index 1.
```