

Programming In C

Lab 4B

Objective

To gain expertise in using arrays, array notation, strings, and functions.

Assignment

Write a program to:

- Code a function to generate a string s1 (length 40 characters), containing random patterns of upper-case letters 'A' – 'Z'.
- Code a function to allow the user to enter a string s2 (minimum length 2 characters, maximum length 20 characters; actual length is user's choice) containing a random pattern of upper-case letters 'A' – 'Z'. String length and user input must be validated.
- Code a function to allow the user to enter a replacement character ch.
- Code a user define function strfilter(s1, s2, ch) that searches s1 and replaces any occurrences of any of the characters contained in s2 with character ch.
- Output the generated string, the user entered string, replacement character and filtered string from the main program.

Example:

```
s1 = "PHQGHUMEAYLNLFDXFIRCVSCXGGBWKFNQDUXWFNFO"  
s2 = "ABC"  
ch = '*'  
s3 = "PHQGHUME*YLNLFDFIR*VS*XGG*WKFNQDUXWFNFO"
```

- Your program needs to be in a loop asking whether the user wants to continue entering another string s2 with a Y/N type of an answer (one character). Use the original random string for all comparisons.
- No pointers or global variables should be use in this lab.
- No string or character functions maybe used in this lab except getchar, putchar, gets, puts functions.

To create the randomly generated pattern use the library function rand() which generates pseudorandom numbers from 0-32767. Need to have #include <stdlib.h> file on top of your program. The modular operator can be used to change the range to 0-25. This should be done in a function. Generate the random string ONLY once.

Input

User string and a replacement character.

Output

The generated string, the user entered string, replacement character and filtered string, all user prompts, and error messages.

Run

The program multiple times with different user entered string and replacement characters showing all test cases and scenarios including invalid strings.

Turn In

Turn in source code and output file.

Programming In C

Lab 5B

Objective

To gain experience in the use of pointers and pure pointer notation.

Assignment

Modify lab 4B by replacing all array notations with pure pointer notations. However, arrays must still be defined. No subscripts in functions.

Run

The program multiple times with different user entered string and replacement characters showing all test cases and scenarios including invalid strings.

Turn In

Turn in source code and output file.