

North South University
CSE115, Fall 2021
Due date: 12th December, 2021

1) Write a program in C to count a total number of duplicate elements in an array.

Test Data:

Input the number of elements to be stored in the array :3

Input 3 elements in the array:

element - 0: 5

element - 1: 1

element - 2: 1

Expected Output:

Total number of duplicate elements found in the array is: 1

2) Write a program in C to rotate an array by N positions.

Function prototype: **void shiftArr1Pos (int arr1[], int arrSize)**

void arr1Rotate (int arr1[], int arrSize, int rotFrom)

Expected Output:

The given array is: 0 3 6 9 12 14 18 20 22 25 27

From 4th position the values of the array are: 12 14 18 20 22 25 27

Before 4th position the values of the array are: 0 3 6 9

After rotating from 4th position the array is: 12 14 18 20 22 25 27 0 3 6 9

3) Implement the following function which replaces all the occurrences of one character with another character in a string and shows the modified string.

Function prototype: **void Replace(char arr[],char oldChar, char newChar);**

The Replace function replaces all the occurrences of oldChar is with newChar in the string arr.

4) Write a program in C to remove all characters in String Except Alphabets.

Test Data:

Input the string: coronaupdate2news.co3m

Expected Output:

After removing the Output String: coronaupdatenewscom

5) Create a function **min_add()** to notify user about the minimum number and type of characters that must be added to strengthen the password already entered by a user. Strong password rule are as follows:

1) Your password must be at least 8 characters in length.

- 2) Your password must contain at least one uppercase, or capital letter(ex: A, B, etc.)
- 3) Your password must contain at least two lowercase letter.
- 4) Your password must contain at least one number digit (ex: 0, 1, 2, 3, etc.)
- 5) Your password must contain at least one special character -for example: ~`!@#\$\$%^&*()-_+={}[]\|;:"'<>./?

Suppose user typed a random string of length **n** (**1**≤**n**≤**50**) in the password field but is not sure if it was strong. Given the string typed, find the minimum number and type of characters that user must add to make the password strong?

Input: Password length: 8 Password: Tbn+88*\$ Output: Strong password	Input: Password Length:4 Password: Tb\$7 Output: Include atleast 1 lowercase character. Add 4 character to make your password length 8 Minimum character to add: 4 Input: Password Length:3 Password:TB# Output: Include atleast 2 lowercase character Include atleast 1 digit Add 5 character to make your password length 8 Minimum character to add: 5
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