LAB 02 - Algorithm and Structure

Title

Array Manipulations.

Background

N/A

Program Specifications

Implement a program that manages an integer arrays (up to 100 elements) with the following menu:

1- Add a value
2- Search a value
3- Remove the first existence of a value
4- Remove all existences of a value
5- Print out the array
6- Sort the array in ascending order (positions of elements are preserved)
7- Sort the array in descending order (positions of elements are preserved)
Others- Quit

Function details:

1. Function 1: Display a menu and ask users to select an option.
   - Users run the program. The program displays a menu and prompts users to select an option.
   - User select an option, perform Function 2.
2. Function 2: perform the function based on the selected option.
   - Option 1: ask users to input an integer and store in the array. Go back to the menu.
   - Option 2: ask users to input an integer, and then output its index in the array. Go back to the menu.
   - Option 3: ask users to input an integer, and then remove the first occurrence of that integer in the array. Go back to the menu.
   - Option 4: ask users to input an integer, and then remove all the occurrences of that integer from the array. Go back to the menu.
   - Option 5: display all the array's elements. Go back to the menu.
   - Option 6: sort the array in ascending orders. Go back to the menu.
   - Option 7: sort the array in descending orders. Go back to the menu.
   - Others: exit the program

Expectation of User interface:

N/A

Guidelines

Use bubble sort algorithm to sort the array.