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| **LAB101 Assignment** | **Type:** | **Short Assignment** |
| **Code:** | **C.S.P0043** |
| **LOC:** | **140** |
| **Slot(s):** | **1** |

**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.

1. 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.