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| **Practical Exam** | **Time:** | **60** |
| **Date:** | 16/4/2020 |
| **Name:** |  |
| **ID:** |  |

**Title**

Array Manipulations.

**Program Specifications**

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

1- Add a value (2đ)

2- Search a value (2đ)

3- Print out the array (2đ)

4- Sort the array in **descending** order (2đ)

5- Remove the first existence of a value (1đ)

6- Remove all existences of a value (1đ)

7- Quit

***Function details:***

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. 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: display all the array’s elements. Go back to the menu.
* Option 4: sort the array in **ascending** orders. Go back to the menu.
* Option 5: ask users to input an integer, and then remove the first occurrence of that integer in the array. Go back to the menu. (xóa lần xuất hiện đầu tiên của số nguyên đó)
* Option 6: ask users to input an integer, and then remove all the occurrences of that integer from the array. Go back to the menu.
* Option 7: exit the program

***Exp:***

5  **9** 1  **9 9**  4

**After remove first : 5 1 9 9 4**

**After remove all: 5 1 4**

**Guidelines**

Use selection/ bubble sort algorithm to sort the array.