**DT211C/1 Programming Assignment #2**

Due Date: Sunday, March 8 , 2020 (11.59pm)

**Requirements:**

Develop a program that will play the Lotto game. The program should allow a user to enter their 6 selected numbers and give them a set of options, each performing a specific requirement. You must store the 6 numbers in a 1-Dimensional array.

There are a number of requirements that your program must meet. Your program must be modularised (i.e. use functions) and each task should be dealt in a separate function. The program should display a simple menu to the user and each option in the menu will be implemented by calling a separate function. You must use pointer notation to access array elements – DO NOT use subscript notation.

The requirements are as follows (each implemented in a separate function):

1. Enter any 6 numbers (1–42 inclusive) from the keyboard. Perform any necessary validation (error-checking) required (e.g. all numbers must be different, range 1-42, etc.).
2. Display the contents of the 1-D array containing your lotto numbers that you entered.
3. Sort the contents of the array in increasing order (i.e. 1st element = smallest number, 2nd element = 2nd smallest number, etc.). You may use any sorting algorithm of your choice.
4. Compare your chosen lotto numbers in the 1-D array with the following winning numbers:

1,3,5,7,9,11 (Winning numbers)

Depending on how many of your chosen numbers match the above winning numbers, your program should display one of the following messages:

|  |  |
| --- | --- |
| Match 6 | Jackpot |
| Match 5 | New Car |
| Match 4 | Weekend away |
| Match 3 | Cinema Pass |

5. Display the frequency of the numbers entered each time the user enters a new set of numbers (without exiting the program) on the screen. For example, it might display:

number 1 has been selected x times

number 7 has been selected x times number

28 has been selected x times etc.,

6. Exit program

**Extra:**

* After a function has completed, your program should return to the main menu and allow the user to select another option.
* The user should only be allowed to select options 2, 3, 4 & 5 only if they have correctly entered their 6 valid chosen numbers, i.e., option 1. Display appropriate error messages to handle any errors.

**Submission details:**

1. Submit your program in Brightspace. This must be submitted on or before

Sunday, March 8 , 2020 (11.59pm).

1. Extra marks will be awarded for well written code (comments, indentation, whitespace, good use of brackets, etc.,).