Lab 5: Arrays

In this lab you will learn how to use arrays.

You are given an array with 10 elements, called array. Each element of the array are assigned a random value between 0 and 4 (inclusive). Because value assignment is random, you will get a different array each time you run your program.

Here is an example: \{ 0 \ 1 \ 3 \ 2 \ 1 \ 4 \ 1 \ 2 \ 0 \ 3 \}. Your task is to count the number of appearances of each element in the array. For instance, 0 appeared twice in the above array, 1 appeared three times, 2 appeared twice, 3 appeared twice, and 4 appeared once. You should print:

Number of 0s: 2
Number of 1s: 3
Number of 2s: 2
Number of 3s: 2
Number of 4s: 1

Here is a sample output:

The array is: \{ 2 \ 2 \ 3 \ 1 \ 2 \ 0 \ 4 \ 4 \ 1 \ 1 \}
Number of 0s: 1
Number of 1s: 3
Number of 2s: 3
Number of 3s: 1
Number of 4s: 2

Download the skeleton code from http://cs-people.bu.edu/qmma/count.cpp. Try to compile and run your program. It should print something like this:

The array is: \{ 4 \ 3 \ 4 \ 0 \ 4 \ 2 \ 3 \ 0 \ 0 \ 2 \}

Your job is to fill the blank in main() function and print the desired output. Please do not change setValue() function and the first 2 lines in the main function — they are for testing purposes.

Hints:
1. You need to use a new array and use it to store the result. Think carefully about the size of the new array.
2. Let’s call your new array result[]. What value should result[n] store?
3. You need a loop to iterate through the array given to you.