

## LAB TEST 2

### CSC 1100 ELEMENTS OF PROGRAMMING

DEADLINE: 5<sup>th</sup> December 2018 - Wednesday (before 11.55 pm)

[10 marks]

QUESTION:

1. Consider the following function main:

```
int main ( )
{
    int alpha [20];
    int beta [20];
    int matrix [10] [4];
    .
    .
    .
}
```

- a. Write the definition of the function **inputArray** that prompts the user to input 20 numbers and stores the numbers into **alpha**.
- b. Write the definition of the function **doubleArray** that initializes the elements of beta to two times the corresponding elements in alpha. Make sure that you prevent the function from modifying the elements of **alpha**.
- c. Write the definition of the function **copyAlphaBeta** that stores **alpha** into the first five rows of **matrix** and **beta** into the last five rows of matrix. Make sure that you prevent the function from modifying the elements of **alpha** and **beta**.
- d. Write the definition of the function **printArray** that prints any one –dimensional array of type **int**. Print 15 elements per line.
- e. Write a C++ program that tests the function main and the functions discussed in parts a through d. (Additional functions, such as printing a two-dimensional array, as needed.)

Example output:

```
Enter 20 integers
12 90 6 34 17 23 36 10 2 80 15 44 40 18 14 55 62 52 11 86
Alpha after reading 20 numbers
12 90 6 34 17 23 36 10 2 80 15 44 40 18 14
55 62 52 11 86
*****

Beta after a call to doubleArray
24 180 12 68 34 46 72 20 4 160 30 88 80 36 28
110 124 104 22 172
*****

Matrix after a call to copyAlphaBeta
    12     90      6     34
    17     23     36     10
     2     80     15     44
    40     18     14     55
    62     52     11     86
    24    180     12     68
    34     46     72     20
     4    160     30     88
    80     36     28    110
   124    104     22    172
*****

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Process exited after 3.434 seconds with return value 0
Press any key to continue . . . █
```