

## *COSC 1560 – Computer Programming II*

### **Assignment 3**

**Deadline February 2, 2021**

- 1) As used in Assignment 2, the file "StudentNames.txt", available on the course webpage, currently containing 10 people's names in the following format:

Smith, John

Enhance the program developed in Assignment 2 by implementing the following additional functions:

- a. `int binarySearchNames(const string names[], int numNames, const string& name);`  
*Return the array index if the name, passed as the third argument, is found in the array. If the name is not found then return -1.*  
*Use the 'binary search' algorithm to implement this function.*
- b. `void selectionSort(string names[], int numNames);`  
*Sort the names in ascending order using the selection sort algorithm.*
- c. `void selectionSortDescending(string names[], int numNames);`  
*Sort the names in descending order using the selection sort algorithm.*

- 2) Write a separate program to implement the following requirements:

- a. Declare three integer variables, n1, n2, n3 and initialize them to 10, 25, and 50 respectively.
- b. Declare two integer pointer variables, p1 and p2, and initialize them to point to n1 and n2 respectively.
- c. **By using p1**, multiply the value of n1 by 2 (*the new value of n1 should then be  $10 \times 2 = 20$* ).
- d. **By using p1 and p2**, print out the sum of n1 and n2.
- e. Assign p1 to point to n3.
- f. **By using p1 and p2**, print out the sum of n2 and n3.

**THE DEPARTMENT STANDARDS FOR “STYLE GUIDELINES” SHOULD BE FOLLOWED IN ALL CODE.**