COSC 1560 – Computer Programming II

Assignment 2
Deadline February 7, 2022

1) Add the following two functions to the program developed for Assignment 1:

   a. bool searchStudents(const int scores[][NUM_TESTS], int numStds, double average);
      Return "true" if at least one student has an average score greater than the value passed as the third argument. If no student meets this requirement, return "false".
      Use the 'linear search' algorithm to implement this function.

   b. bool searchTests(const int scores[][NUM_TESTS], int numStds, double average);
      Return "true" if at least one test has an average score greater than the value passed as the third argument. If no test meets this requirement, return "false".
      Use the 'linear search' algorithm to implement this function.

   In 'main', prompt the user for an average test score, then call the two functions declared above with this value being passed as the third argument. The additional output should then be as follows:

   A student does/does not have an average score greater than: XX
   Press Enter to Continue

   A test does/does not have an average score greater than: XX
   Press Enter to Continue

2) Develop a separate program to implement the functions outlined below, and construct a 'main' function to call these functions and display the output.

   The file "StudentNames.txt", available on the course webpage, currently contains 10 people's names in the following format:

   Smith, John
   Song, Mona
   …

a. void readNames(ifstream& inputFile, string names[], int numNames);
   Read all names from the file. The names should be stored in the array as they are stored in the file.

b. void displayNames (const string names[], int numNames);
   Display the names.

c. int searchNames(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. The user should be prompted for the name before the function is called.
   Use the 'linear search' algorithm to implement this function.

d. void bubbleSort(string names[], int numNames);
   Sort the names in ascending order using the bubble sort algorithm.

e. void bubbleSortDescending(string names[], int numNames);
   Sort the names in descending order using the bubble sort algorithm.

THE DEPARTMENT STANDARDS FOR "STYLE GUIDELINES" SHOULD BE FOLLOWED IN ALL CODE.