Lab 1
Due Date: 10/06/2014
New Beginnings
Professor York

Reminder: For each algorithm that you code, fill out an algorithm summary sheet and include it in your portfolio along with a printout of your code.

1. Write a C program to find and print to the terminal the largest element in a list of positive integers that are read from a file named "data1.txt".

2. Write a C program to sequentially search a list of positive integers read from a file named "data1.txt" for a positive integer read from the terminal. Your program should print the index or indexes of the position(s) in the list of positive integers at which the desired integer has been found. Use 0-origin indexing. If the desired integer cannot be found in the list, your program should print the string "NOT FOUND"

3. Write a C program to determine if a list of 1000 positive integers read from a file named "data2.txt" contains any repeated elements. If it contains repeated elements, list the index and value of each repeated element. If it does not contain repeated elements, print the string "NO REPEATED ELEMENTS".

4. Write a C program to compute the dot product of two vectors. Your program should read from a file named "data3.txt". The first value in the file is a positive integer denoting the number of components in each vector, followed by a blank line, followed by a list of integers, followed by a blank line, followed by another list of integers. Each list of integers has the same number of components. After computing the dot product, your program should print out its value.

Questions:
1. Does it matter if the integers are positive or negative?
2. Does it matter how many components are in the vectors?