

ESS101 : Programming 1 (C Programming)

LAB - 4

Due: 9th September, 2019 @ 17:00

Problem 1: (Arrays) Write a (C) program to input comma separated ten integers and store them in an array, print the numbers in reverse order of input, separated by a space.

Sample Input 1: 59,-10,31,46,17,98,9,51,0,67

Output 1: 67 0 51 9 98 17 46 31 -10 59

Problem 2: (Linear Search in an array of integers) Just as in problem 1, input ten integers. In addition, input a number x to search. Perform linear search to find x in your list of numbers. Output of your program should be “1” if x is found in your list, else output “0”. Also output the number of comparisons your program makes while searching.

Sample Input 1: 59,-10,31,46,17,98,9,51,0,67 98

Output 1: 1 6

Sample Input 2: 59,-10,31,46,17,98,9,51,0,67 1001

Output 2: 0 10

Problem 3: (Binary Search in a sorted array of integers) Write a (C) program to input ten integers in sorted order and store them in an array. Input a number x to search. Perform binary search to find x in your list of numbers. Output of your program should be “1” if x is found in your list, else output “0”. Also output the number of comparisons your program makes while searching.

Sample Input 1: 23,45,56,67,89,90,104,120,140,189 56

Output 1: 1 3

Sample Input 2: 23,45,56,67,89,90,104,120,140,189 450

Output 2: 0 4