CS2610: Computer Organization and Architecture Lab

Lab Assignment - 4

04-03-2021

1 Problem - Binary Search (100 pts)

Given a sequence of integers(32-bit) and a search element. You have to find whether the search element is present in the sequence. Use the binary search algorithm to perform the search. You can use either the recursive or iterative approach. Print '1' to the screen if the element is found, else '0'.

The input will be given in the following order, size of the sequence(N), the sequence and the search element. You can assume that the input sequence is already sorted. After displaying the search result, query the user whether he wants to terminate or not; if the response is y or Y, terminate. Otherwise, request for another search element.

1.1 Sample input and output

10
-11 -7 2 3 5 6 9 14 17 22
6

1

1.2 Constraints

$1 <= N <= 100$

2 Submission Guidelines

- There will be points for the readability of the code. Write the code with proper comments wherever necessary and maintain proper indentation.
- Name the program with your roll_no. Ex: If your roll_no is CS19B001, your file name should be CS19B001.asm. If there are multiple files, use CS19B001_1.asm, CS19B001_2.asm etc..
- You need not submit the io.o and io.mac files.
- Place all the required files in a folder and compress the folder using zip compression. Name your folder in the following format. If your roll_no is CS19B001, name it as CS19B001_A$.zip, where '$' denotes the assignment number.