Lab 9: Search

New Attempt

Due Apr 27 by 11:59pm **Points** 20 **Submitting** a file upload

Lab 9

1] Implement Sequential Search recursively.

2] Implement Binary Search recursively.

3] Write a program to find the number of Comparisions using binary Search and the sequential search algorithm as follows:

Suppose a list is an array of 1000 elements.

A. Use a random number generator to fill the list.
B. Use any sorting algorithm to sort the list.
C. Search list for some items as follows:
    A. Use the binary search algorithm to search the list. (You may need to modify the algorithm to count the number of comparisons.)
    B. Use the binary search algorithm to search the list, switching to a sequential search when the size of the search list reduces to less than 15.
D. Print the number of comparisons for steps C.A and C.B and if the item is found in the list then print its position.

4] Find the peak in the array. Return the position of the peak element. **(Practice Question (Nongraded))**

Sample input : {12, 67, 90, 100, 400, 399}

Output: 4 (index start from 0)

parameters: array : a , size of the array : length