

Week 5 Lab: Search

This Week

This week, you will be implementing two sorts: merge sort and quick sort, stories 14 and 15. Though you only have two functions to implement, they are difficult so start early.

Demo

You will be demoing the search functions you did last week.

Story 11 (15 Marks)

If you enter an 'S' command you are prompted to enter the type of sort. When you enter 'i' the array entered earlier is then sorted using an insertion sort.

1. Basics
 1. Formatting is correct (2 Marks)
 2. Compiles without errors or warnings (3 Marks)
2. Correctness (10 Marks)
 1. Sort {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (3 Marks)
 2. Sort {1, 4, 2, 3, 5, 8, 6, 7, 9, 0} (3 Marks)
 3. No visible errors (4 Marks)

Story 12 (15 Marks)

If you enter an 'F' command you are prompted to enter the type of search. When you enter 'l' the array entered earlier is then searched using a linear search.

1. Basics (5 Marks)
 1. Formatting is correct (3 Marks)
 2. Compiles without errors or warnings (2 Marks)
2. Correctness (10 Marks)
 1. Search for 0 in {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (2 Marks)
 2. Search for 0 in {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (2 Marks)
 3. Search for 0 in {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (2 Marks)
 4. No visible errors (4 Marks)

Story 13 (15 Marks)

If you enter an 'F' command you are prompted to enter the type of search. When you enter 'b' the array entered earlier is then searched using a binary search.

1. Basics (5 Marks)
 1. Formatting is correct (3 marks)
 2. Compiles without errors or warnings (2 Marks)
2. Correctness (10 Marks)
 1. Search for 0 in {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (2 Marks)
 2. Search for 0 in {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (2 Marks)
 3. Search for 0 in {0, 1, 2, 3, 4, 5, 6, 7, 8, 9} (2 Marks)
 4. No visible errors (4 Marks)