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M/W CECS 274

CH 14 HW

1.

Linear Search – 45 not found after 9 comparisons, 54 found after 5 comparisons.

Binary Search – 45 not found after 3 comparisons, 54 found after 3 comparisons.

2.

|  |  |
| --- | --- |
| **Sort Method** | **# of comparisons** |
| Selection Sort | O(n2) |
| Insertion Sort | O(n) |
| Bubble Sort | O(n) |
| Quick Sort | O(n2) |
| Merge Sort | O(n \* logn) |

3.

Selection Sort – The number of comparisons stays the same, unsorted vs sorted

Insertion Sort – The number of comparisons is N for sorted, unsorted is O(n2).

Bubble Sort – The number of comparisons is N for sorted, worst case O(n2)

Quick Sort – Number of comparisons stays the same, unsorted vs sorted

Merge Sort – Number of comparisons stays the same, unsorted vs sorted

4.

Selection Sort – Attached

Insertion Sort –Attached

Bubble Sort – Attached

5.

Attached