HackerRank For Work

Spring_2018_INFO6205_Se... 35 minutes

Question - 1

SCORE: **20 points**

Quick Sort

Given the following list of numbers [14, 17, 13, 15, 19, 10, 3, 16, 9, 12] which answer shows the contents of the list after the second partitioning according to the quicksort algorithm? (Hint : The first partition step works on the complete array, whereas the second partition step just works on the left half of the array)

- [9, 3, 10, 13, 12]
- [9, 3, 10, 13, 12, 14]
- [9, 3, 10, 13, 12, 14, 17, 16, 15, 19]
- [9, 3, 10, 13, 12, 14, 19, 16, 15, 17]

Question - 2

SCORE: **20 points**

sort

Which of the following sort algorithms are guaranteed to be O(n log n) even in the worst case?

- Shell Sort
- Quick Sort
- Merge Sort
- Insertion Sort

Question - 3

SCORE: **20 points**

implementation

Which of the following sorting algorithms in its typical implementation gives best performance when applied on an array which is sorted or almost sorted (maximum 1 or two elements are misplaced).

- Quick Sort
- Heap Sort
- Merge Sort
- Insertion Sort

Question - 4

SCORE: **40 points**

Quick Sort Implementation

Given a list of elements of generic type 'T' (which is Comparable) , please implement the sort and partition methods for QuickSort that will ensure that List<T> is sorted.