IDESOA02

- Which statement below is wrong about comparison sorting algorithms?

Select one:

- The time complexity of some comparison sorting algorithms can be faster than O(NlogN).
- Bubble sort, Merge sort and Heap sort are comparison sorting algorithms.
- The time complexity of a comparison sorting algorithm is based on the number of comparisons and moves during sorting.
- The sorted order is determined based only on the comparisons between sort keys.

IDESOA02

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- The sorted order is determined based only on the comparisons between sort keys.
- The time complexity of a comparison sorting algorithm is based on the number of comparisons and moves during sorting.
- The time complexity of some comparison sorting algorithms can be faster than O(NlogN).
- Bubble sort, Merge sort and Heap sort are comparison sorting algorithms.

IDESOA03

– Which statement below is wrong in the context of linear sorting algorithm?

Select one:

- The time complexity is linear.
- The sorted order is determined based on the comparisons between sort keys.
- The sort key must be numeric.
- Counting sort and Radix sort are linear sorting algorithms.

IDESOA04

– In a stable sort algorithm …?

Select one:

- The relative order of elements with equal keys are not maintained.
- The order of both key and non-key values are maintained.

- [x] The relative order of elements with equal keys are maintained.
- [ ] The order of key values are maintained.

IDESOA05

– Merge sort and Quick sort are …?

Select one:

- [ ] Based on Divide and Conquer approach.
- [ ] O(n^2) sorting algorithms.
- [x] Linear sorting algorithm.
- [ ] The fastest sorting algorithms.

IDESOA05

– Merge sort and Quick sort are …?

Select one:

- [ ] Based on Divide and Conquer approach.
- [x] The fastest sorting algorithms.
- [ ] Linear sorting algorithm.
- [ ] O(n^2) sorting algorithms.

IDESOA06

– Which sorting algorithm locates the largest (or smallest) key and its index in each sort pass?

Select one:

- [ ] Bubble sort.
- [x] Selection sort.
- [ ] Insertion sort.
- [ ] Heap sort.

IDESOA07

– Which statement is wrong about Insertion sort?

Select one:

- [x] Scan and exchange any pair of elements that is out-of-order.
- [ ] It is O(n^2) sorting algorithm.
- [ ] Unsorted elements are inserted into an already sorted list.
- [ ] We must shift several elements to make place for the inserted one.

IDESOA08

– Which sorting algorithm scans and exchanges any pair of elements that is out-of-order?

Select one:

- Insertion sort.
- Bubble sort.
- Selection sort.
- Heap sort.

IDESOA09

– Which statement is wrong concerning to the Heap data structure?

Select one:

- It is a tree where all nodes have zero, one or two children.
- In a min-heap the parent node value is always greater than or equal to its children's values.
- It is used in Heap sort algorithm.
- An array can be used to store heap's nodes.

IDESOA14

– Suppose that we are using Radix sort on N elements, each element has P digits in base b (each digit is in the range [0 .. B-1]), and couting sort algorithm is used to sort the digits. What is the time complexity of the Radix sort algorithm?

Select one:

- O(N.P.B).
- O(P+N+B).
- O(B+N).
- O(P(N+B)).

IDESOA15

– What is an operation in which a list of elements is arranged either in ascending order or in descending order?

Select one:

- Searching.
- Hashing.
- Sorting.
- Traversing.

IDESOA16

– Which of the following sorting algorithm does not have a worst case time complexity of O(n^2)?

Select one:

- Insertion sort.
- Quick sort.
- Buble sort.
- Merge sort.