Q1 Instructions

0 Points

To receive full credit on this quiz, you must score at least 50%.

The Github repo for Lecture 14 is at:
https://github.com/ucsd-cse12-f20/ucsd-cse12-f20.github.io/tree/master/lectures/lecture-14

Q2 QuickSort

1 Point

Which of the following descriptions of pivot selection will result in the best case quicksort runtime?

- ○ Randomly choosing the pivot
- ○ Choosing the first value as the pivot
- ○ Choosing the median index as the pivot
- ◉ Choosing the median value as the pivot
- ○ There is no definite pivot selection method that will always result in best case runtime

Q3 MergeSort

1 Point

Consider the merge sort from class. How many times will the element at index 0 be copied when sorting an array of length n over the entire run of the algorithm?

- ○ 1
- ○ lg(n)
- ◉ 2*lg(n)
- ○ n/2
- ○ n

Q4 Sorting

1 Point

Which of the following statements about sorting are true?

- [ ] The best case time of all sorts is O(1) because of the case when an array is length 1
- [x] Merge sort has best and worst cases of O(nlg(n))
- [x] If arrays are split into thirds instead of halves in merge sort, the best case would still be O(nlg(n)) {HINT: look up the rules of logs!}
- [ ] Quicksort is O(n^2) only when an array is in reversed order
- [x] The worst cases for selection sort and insertion sort occur when an array is in reversed order