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Back to Week 4



4/4 points earned (100%)

Quiz passed!



1/1 points

1.

What is the running time of selecting the minimum element on each iteration of the selection sort?

- $O(n^2)$
- $O(\log n)$
- O(n)

Correct Response

Selecting the minimum of O(n) elements is O(n).

O(1)



1/1 points

2.

Can we use the merging procedure from the lectures to merge the arrays [1, 3, 2, 5, 4] and [5, 6, 7, 8, 9] in order to receive a sorted array?



No

Correct Response

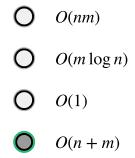
0	Yes				
	1/1				

Both arrays must be sorted prior to merging.

points

3.

How many operations are needed to merge two sorted arrays of sizes m and n respectively?



Correct Response

Merge works in O(n + m).



4

Can you use Count Sort to sort an array of positive real numbers which are less than 100, such as [0.572, 0.25, 2.34, 3.14159, 2.781828, 42], in O(n) time?

Yes, because the numbers are bounded

No

Correct Response

Although the numbers in the array are bounded, Count Sort is not applicable, because it can only be applied to integer numbers: real numbers cannot play the role of indices of an array.

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