✖

Sorting

Back to Week 4

✔ **4/4** points
earned (100%)

Quiz passed!

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1 / 1
points

1.
What is the running time of selecting the minimum element on each iteration of the selection sort?

◉ $O(n)$

▲

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

○ $O(1)$

○ $O(n^2)$

○ $O(\log n)$

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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?

○ Yes

◉ No

▲

Correct
Both arrays must be sorted prior to merging.

✔   1 / 1
      points

3.

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

○ $O(nm)$

◉ $O(n+m)$

Correct
Merge works in $O(n+m)$.

○ $O(m\log n)$

○ $O(1)$

✔   1 / 1
      points

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
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.