✓ **Congratulations! You passed!**
TO PASS 75% or higher

Keep Learning

GRADE
100%

Sorting

TOTAL POINTS 4

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

- ○ $O(n^2)$
- ○ $O(\log n)$
- ○ $O(1)$
- ◉ $O(n)$

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

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? 1 / 1 point

- ○ Yes
- ◉ No

✓ **Correct**
Both arrays must be sorted prior to merging.

3. How many operations are needed to merge two sorted arrays of sizes m and n respectively? 1 / 1 point

- ◉ $O(n+m)$
- ○ $O(1)$
- ○ $O(m \log n)$
- ○ $O(nm)$

✓ **Correct**
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? 1 / 1 point

- ○ 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.