

## 恭喜你通过了!

成绩 100% 要通过 80% 或更高

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1. Given an array of 6 numbers -> 6, 8, 19, 48, 9, 90 and applying a **selection sort**. How many swaps must occur before the array is sorted? 1 / 1 point

- 4  
 2  
 6

**正确**

那是正确的。数组大部分是有序的，所以只需要交换 19 和 9，以及 48 和 19。

2. Given an array of numbers and a target value, using a loop, what is the worst-case time complexity to check if the number is present in the array? 1 / 1 point

- O(n)  
 O(1)  
 O(log n)

**正确**

那是正确的。要确定一个值是否在数组中，使用一个循环意味着检查数组中的每个元素。

3. A binary search can only be performed on a sorted dataset. 1 / 1 point

- True  
 False

**正确**

那是正确的。二分查找的性质是它检查值是否更高或更低，并移除超出该条件语句点的所有内容。

4. Given the following snippet of pseudocode: 1 / 1 point

```
array = []
n = 4
FOR i = 0 TO n:
    FOR j = 0 TO n:
        array.add(i*j)
```

What is the space complexity of this problem?

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

**正确**

那是正确的。当 n 循环两次时，计算量将反映为 n\*n 或 n^2。

5. What advantage is there to changing element location using an in-place swap? 1 / 1 point

- It reduces the amount of space taken by removing the need to create another variable in memory.
 It reduces the time taken to complete an algorithm through lowering the time complexity.
 It is a memory feature that allows many variables to reference the same memory location.

**正确**

那是正确的。原地交换是在数组中完成的，而不是创建新的数组并存储排序的数据。这是一个减少空间复杂度的好方法。

