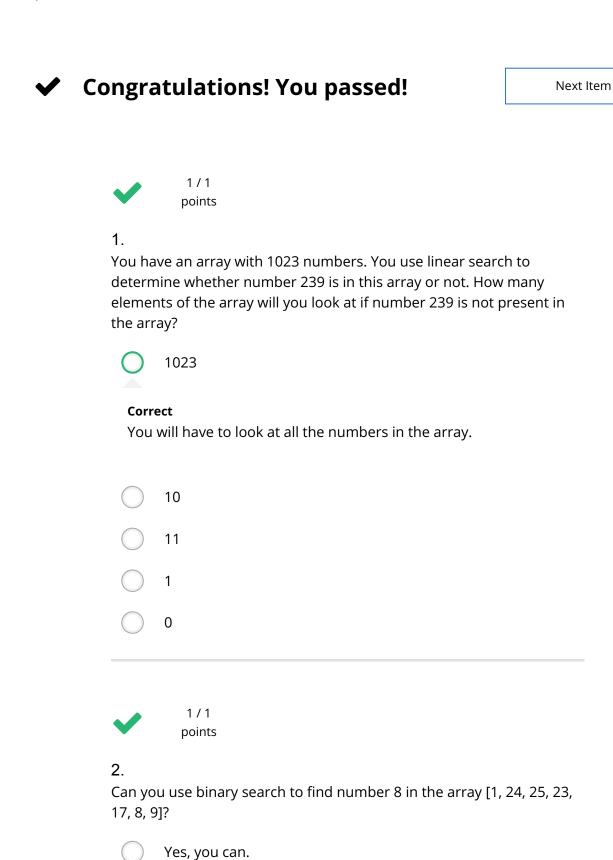
Linear Search and Binary Search

4/4 points (100%)

Quiz, 4 questions



Correct

No, you cannot.

The array must be sorted before you can apply binary search. 23 < 17, so the array is not sorted.

Linear Search and Binary Search

Quiz, 4 questions

4/4 points (100%)



1/1 points

3.

You have a sorted array with 1023 elements. You use binary search to determine whether number 239 is present in this array or not. How many elements of the array will you compare it with if number 239 is not present in this array?



10

Correct

You will only need to compare 239 with 10 elements of the array, because 10 is roughly the binary logarithm of 1023. For example, if 239 is smaller than all the numbers in the array, you will first compare it with the element with index 511 (starting from 0), then the element with index 255, then with elements with indices 127, 63, 31, 15, 7, 3, 1 and 0 before you determine that 239 is smaller than all numbers in the array.







1/1 points

4.

What is the maximum number of iterations a binary search will make to find some number in the array [1, 2, 3, 5, 8, 13, 21, 34]?



4

Correct

If we search for number 34, we will first compare it with the number 5 in the middle, then with the number 13 in the middle of the right half, then with the number 21, and then with the number 34. This is because when we have even number of

elements we compare with the left of the two middle elements.

If we compared with the right of the two middle elements, then

Linear Searchtand Rinary wearch ompare it first with number 8,

then with number 3, then with number 2 and then with

4/4 points (100%)

Quiz, 4 questions

then with number 3, then with number 2 and then with number 1 - also 4 comparisons.

| 3 | | | | |
|---|--|--|--|--|
| 8 | | | | |
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