

Final graded assessment

1. When will you be most likely be given an opportunity to show off your ability to code?

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- ☐ During the screening call
- ☐ During a technical interview
- ☒ During the Quiz

✗ **Incorreto**

Not quite. Please review the reading on **Interview types you might expect**, in Module 1, Lesson 2: **The coding interview**.

2. How many representations can be made from a byte?

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- ☒ 256
- ☐ 128
- ☐ 64

✓ **Correto**

That's correct! 2^8 or $(2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2)$

3. If an array of size 5, takes 5 computations before completing. It can be said that this has a Big-O of:

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- ☒ $O(n)$
- ☐ $O(1)$
- ☐ $O(\log(n))$

✓ **Correto**

That's correct! The computation was the same as the input size.

4. What is auxiliary space?

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- ☒ Additional space required to make computations.
- ☐ Luxury space that can be used for extravagances.
- ☐ Space that is not really needed.

✓ **Correto**

That's correct! It is the extra spaced used when make computations.

5. What does it mean to say that an array is zero-based?

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- ☐ That it can't be changed after it has been instantiated.
- ☒ That the index count starts at 0.
- ☐ That the Big-O notation can be applied to it.

✓ **Correto**

That's correct. Zero-based refers to the first number of the index. Some languages will start at 1, while others (referred to as zero-based) prefer to start the count at 0.

6. True or false: Lists are objects therefore can be sorted.

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- ☒ True
- ☐ False

✓ **Correto**

That's correct! Casting a list as an object means that it has the extra functionality to sort its contents.

7. What is in-place swapping?

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- ☐ Moving values in an array if the element being added is smaller.
- ☐ Using different types of data structures as a container to emulate certain characteristics.
- ☒ Swapping items in an array in place of creating a new structure.

✓ Correto

That's correct! This saves space by not having to create new variables.

8. In relation to trees, what is the difference between a depth first and breadth first search?

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- ☒ A depth first approach will travel from top to bottom through sibling nodes, while a breadth first will travel through each level.
- ☐ A depth first will investigate nodes with greater detail, while a breadth first is more superficial in approach.
- ☐ A breadth first is more thorough so will return the result faster.

✓ Correto

That's correct. Both approaches take a different way of searching the tree, which is faster is dependent on where the data is stored.

9. Which of the following statements are true?

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- ☐ A hash table decreases speed to decrease space usage
- ☐ A hash table decreases space usage to increase speed.
- ☒ A hash table increases space usage to increase speed.

✓ Correto

That's correct. A hash table has the additional overhead of lookup tables that increase the rate of speed. This offers quicker searches but takes more overhead.

10. The process of storing results for later look up to save computation time is an example of what?

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- ☒ Memoization
- ☐ Recursion
- ☐ Modularization

✓ Correto

That's correct! It can seriously reduce further computation times.