

✓ Congratulations! You passed!

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Grade received 100% Latest Submission Grade 100% To pass 80% or higher

1. Where would you most likely be asked a series of coding related questions?

1 / 1 point

- ☐ During the take-home assignment.
- ☐ During the screening.
- ☒ Your technical interview.

✓ Correct

That's correct! A technical interview will be most concerned with coding related attributes.

2. How do computers store and represent information?

1 / 1 point

- ☒ Binary
- ☐ HTML
- ☐ Java

✓ Correct

That's correct! Computers use binary as a way of storing and representing information.

3. Which is the quickest: $O(n)$, $O(2n)$ or $O(\log(n))$?

1 / 1 point

- ☐ $O(2n)$
- ☐ $O(n)$
- ☒ $O(\log(n))$

✓ Correct

That's correct. Applying a log to a value makes it very small, and is as near to instant time you can get without having instant time.

4. Which of the following equations can be said to be true:

1 / 1 point

- ☐ auxiliary space = space complexity + input space
- ☒ space complexity = input space + auxiliary space
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✓ Correct

That's correct! Space complexity is a combination of the space taken by the input, plus any additional space needed to make the computations.

5. In relation to data structures mutability refers to:

1 / 1 point

- ☐ The use of one data structure as a container to mimic another.
- ☐ The initial limitations on the size that they can grow to.
- ☒ Whether a structure can be changed after its completion.

✓ Correct

That's correct. Mutability refers to an object's ability to change once it has been instantiated.

6. To say that a list is an object infers what about this data structure?

1 / 1 point

- ☐ That it can be defined by the attributes it contains.

- ☐ That it will need to have parameters configured before use.
- ☒ That in addition to storing items it has its own in-built functions.

✓ **Correct**

That's correct! This is particularly useful for object orientated programming.

7. What is in-place swapping?

1 / 1 point

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

✓ **Correct**

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

8. Which of the following are actual data structures?

1 / 1 point

- ☐ C Trees
- ☒ B Trees
- ☐ A Trees

✓ **Correct**

That's correct! The meaning of the B is not known but some suggestions are balanced, boeing or binary.

9. In relation to hash tables, what is meant by the load factor?

1 / 1 point

- ☒ It relates to bucket capacity before a split is made.
- ☐ It relates to the amount of space allocated to the index table.
- ☐ It is how much space a hash table has.

✓ **Correct**

That's correct! Hash tables increase in size when they are near a certain threshold. This is called the load factor.

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

1 / 1 point

- ☐ Recursion
- ☒ Memoization
- ☐ Modularization

✓ **Correct**

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