

Week 7 Quiz

Q1.

In the `ArrayList` class shown in the lessons, the `remove_item(i)` method removes an item at a given index `i` of the list. In the worst case, what's the time complexity of `remove_item(i)`?

- A. $O(1)$
- B. $O(\log n)$
- C. $O(n)$
- D. $O(n^2)$

Q2.

What abstraction does a stack data structure provide?

- A. First in, first out
- B. Last in, first out
- C. Retrieve the element at a given index
- D. Return a random element

Q3.

A Python list can be used as a queue by appending items to the end of the queue and removing items from the front of the list using `pop(0)`. What's the time complexity of `pop(0)`?

- A. $O(1)$
- B. $O(\log n)$
- C. $O(n)$
- D. $O(n^2)$