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Big-O

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For the operation listed below, determine the time complexity of the operation, and choose from the selections provided. Unless otherwise stated, assume the **worst-case** time complexity. However, make sure you choose the tightest Big-O upper bound possible for the operation. Do **not** use an amortized analysis for these operations **unless** otherwise specified. You are provided with a scratchpad at the bottom of this page that you may use.

Big-O

0 puntos posibles (no calificables)

What is the cost of removing the **least**-recently added element from an array-backed queue?

☒ $O(1)$

☐ $O(\log n)$

☐ $O(n)$

☐ $O(n \log n)$

☐ $O(n^2)$



What is the cost of adding to the front of an array with n contiguous elements?

☐ $O(1)$

☐ $O(\log n)$

☒ $O(n)$

☐ $O(n \log n)$

☐ $O(n^2)$



Given a Queue with unordered data, creating a Singly-Linked List with head and tail pointers that has the data ordered from greatest to least from head to tail.

☐ $O(1)$

☐ $O(\log n)$

☐ $O(n)$

☐ $O(n \log n)$

☒ $O(n^2)$



Accessing the 50th element of Doubly-Linked List of size **at least** 51 with head and tail pointers.

☒ $O(1)$

☐ $O(\log n)$

☐ $O(n)$

☐ $O(n \log n)$

☐ $O(n^2)$



What is the cost of adding an element to an array-backed stack?

☐ $O(1)$

☐ $O(\log n)$

☒ $O(n)$

☐ $O(n \log n)$

☐ $O(n^2)$



Enviar

Mostrar respuesta

Las respuestas son mostradas en el problema

Scratchpad

Below is a textbox you can use as a scratchpad while you work through this problem; you should be able to click in the bottom-right and drag to expand it for your use. No text in this box will be used by the grading script, but you can use it to take notes and work through the exercise. Note that text entered in this box **will not be saved** if you leave and return to this page.

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