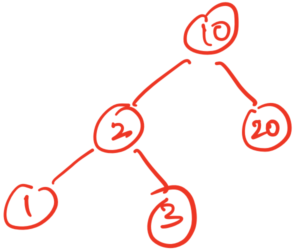
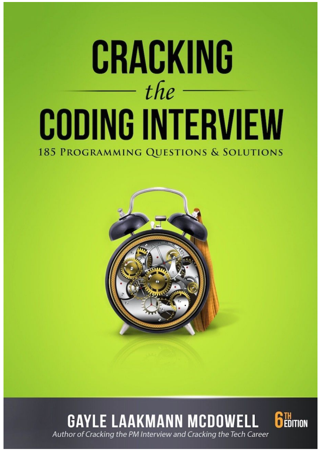
INTERVIEW PRACTICE

Tips for Technical Interviews

#1: Listen carefully, look for any unique info

#2: Visualize

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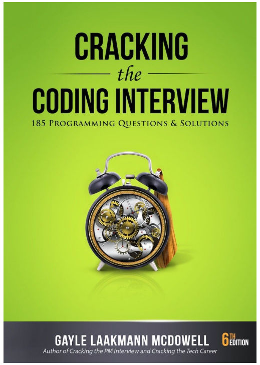
Tips for Technical Interviews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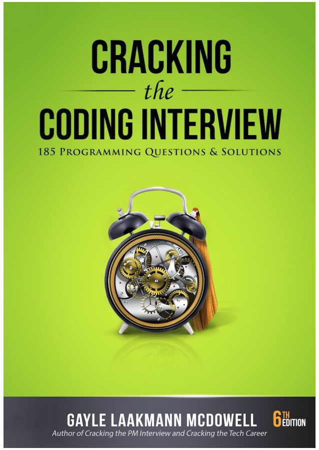
1. Listen carefully
2. Draw an example
3. State the brute force or a partially correct solution
    - then work to get at a better solution
4. Optimize:
    - Make time-space tradeoffs to optimize runtime
    - Precompute information: Reorganize the data e.g. by sorting
5. Solidify your understanding of your algo before diving into writing code.
6. Start coding!

Small group exercise

Write a ADT called minStack of numbers that provides the following methods

- push() // inserts an element to the "top" of the minStack
- pop() // removes the last element that was pushed on the stack
- top () // returns the last element that was pushed on the stack
- min() // returns the minimum value of the elements stored so far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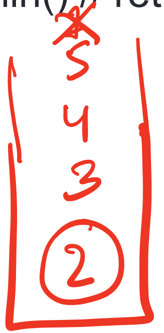

stack<int> S

2, 3, 4, 5, ~~1~~

min $\boxed{\cancel{2}}$ 1

✓ Idea 1: use the stl stack + variable for the min. ✗

Doesn't work for the seq: 2, 3, 4, 5, 1

Idea 2: use a unsorted vector

push : $O(1)$
pop : $O(1)$
top : $O(1)$
min : $O(n)$

Idea 3: Stack + priority-queue

We'll explore this option and others next lecture