



Competitive Programming Club

# Prep Hour, Week 2

Two Pointers, Sliding Window



# What & Why is Prep Hour?

- Organized lessons are a great way to practice
- Cover 1-2 topics/week
- Based on neetcode.io blind 75 problem set

# Two Pointers Approach

- 'Two pointers' is refers to an approach in problem solving where you maintain two pointers as you walk through a list
- Often used when you have to examine pairs in a list
- Example uses:
  - Find a pair with a given sum in a sorted array
    - <https://leetcode.com/problems/two-sum-ii-input-array-is-sorted/description/>
  - Removing duplicates from a sorted array
  - Finding a cycle in a linked list
  - Great intro video: <https://www.youtube.com/watch?v=-gjxg6Pln50>

# Sliding Window Approach

- Sliding window is similar to two pointers, but instead of only looking at two elements at a time, we are looking at an entire subsection of a list
- You can do this by keeping two pointers for start and end, or by keeping start and a length
- Example uses:
  - Find max sum of a subarray of size  $x$  in an array
    - Good example video:  
<https://www.youtube.com/watch?v=p-ss2JNynmw>
  - Find longest substring of all same char you can make if you're allowed to change two chars

# Questions?

- Problems are posted in [#prep-hour](#) channel on the discord
- Don't have access to [#prep-hour](#) ? Get prep-hour role in [#roles](#) channel
- Solutions are described on neetcode.io and in many other videos on youtube
- Try to work in other problems in the two-pointers and sliding window section on <https://neetcode.io/practice> throughout the week!

Discord link!

