

CSE221: Algorithms

Lab 03

Spring 2025

Assignment 03:

codeforces Invitation Link:

<https://codeforces.com/contestInvitation/4b212b15f4e65a24b036f8b4b425df4ad226c2c8>

Deadline: 11:59 pm, March 15, 2025

No submission will be considered after the deadline ends.

Learning Outcome:

In this lab, we will explore the **Divide and Conquer** paradigm, which is a fundamental algorithmic technique for solving problems efficiently by breaking them into smaller subproblems. Through hands-on problem-solving, students will develop a deeper understanding of recursion, algorithm design, and optimization.

Understanding the Divide and Conquer Approach

- Learn how to break a problem into **smaller independent subproblems**, solve them recursively, and combine the results. • Understand when and why **Divide and Conquer** is preferable over brute-force approaches.
- Apply recurrence relations and the Master Theorem to analyze time

complexity.