



A FORUM FOR COMPUTING AND INFORMATICS

A Venture by Alumni
of NIT Trichy

Competitive Programming: Intermediate

(For Contests and Coding Interviews)

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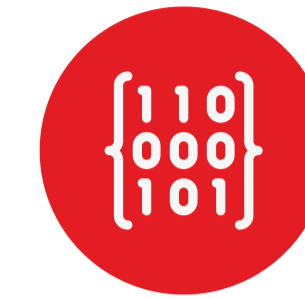
www.therootlearning.com



Competitive Programming Basics

- What is Competitive Programming (CP)?
- Language for CP? C++?
- CP Setup and Requirements
- Asymptotic Analysis – Time & Space Complexity
- Configuring and using the CP Editor
- Selection of CP Problems for Beginners
- Understanding a CP Problem
- Approaching a CP Problem: Demo
- Using Templates for CP
- Submitting Solutions to Online CP Platforms

CRACK ONLINE CONTESTS



Basics

Mathematics for Competitive Programming

- Basic Algebra
- Set Theory
- Logarithms
- Bit Manipulation
- Math Logic
- Number Theory
- Combinatorics
- Co-ordinate Geometry – Basics
- Matrix Algebra
- Basic Probability



Algorithms and Algorithmic Techniques

- Recursion and Recursive Algorithms
- String Searching Algorithms
- Set Algorithms
- Shortest Path and Minimum Spanning Tree Algorithms

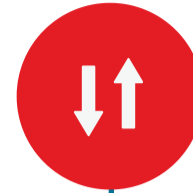
Algorithm Templates and Tips

- Two Pointer Technique
- Sliding Window Technique
- Bit Manipulation Techniques



Searching Algorithms

- Linear Search
- Binary Search
- Interpolation Search



Sorting Algorithms

- Selection Sort
- Bubble Sort
- Insertion Sort
- Merge Sort
- Quick Sort

Data Structures

- Linked List
- Stack
- Queue
- Deque
- Binary Tree
- Binary Search Tree
- In-Order, Pre-Order and Post-Order
- Tree Traversal Algorithms



CODE

600+ problems from scratch

CRACK CODING INTERVIEWS



FEES: Rs. 8000

Duration: 4 Months

- Participate in 4+ Online Contests with our mentorship
- Crack Coding Interviews @ Product based Companies

* Prerequisite: Foundations of Programming and Problem Solving