

CypherCreed's

Learning Path


Competitive Programming(CP)

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Introduction:

- [What is CP?](#)
- Why Competitive Programming?
 - [Career Benefits](#)
 - [Everybody's Opinion](#)
- [FAQ's](#) (Must SEE)

Getting Started:

- Becoming Proficient in any programming language but C++ is certainly the best language for CP because of its STL. Also, you may opt for JAVA and Python too. (Learning Paths of all the languages are given in LEARNING PATH document)

Learning Path:

- Learning C++(STL) for CP:
 - [A General Intro to STL](#) (Must before opening to following STL links)
[Iterators](#)
[Containers](#)
[Algorithms](#)

Refer to this book for CP(Probably the best book on CP Ever Written!)

- Sorting / Searching :
 - Sorting : (Insertion, Merge, Quick & Count Sort are enough)
Approach: Read the PsuedoCode -> Animations -> Visualizer then implement the code yourself
[Visualize](#)
Practice ([1](#),[2](#),[3](#),[4](#))
[Sorting in CP/ Library Implementations](#)
[Big-O-CheatSheet](#)
 - Refer (Tuts([1](#) (with Animations), [Videos](#))
 - Searching : (Linear Search & Binary Search)Approach: Read the PsuedoCode -> Animations -> Visualizer then implement the code yourself
[Visualize](#)
Practice

[Searching in CP](#)

- Then Move on to:
 - Recursion [MUST!!! As it is the base for data structures and algorithms]
 - [What is Recursion?](#)
 - [Questions on Recursion and Backtracking](#)
 - Basic Mathematics [Basic Maths(11th and 12th Standard),Discrete Maths]
 - [Discrete Maths](#)
 - [Practice](#)
 - For more **Refer CypherCreed's Learning Path on Data Structures & Algorithm.**

- Dynamic Programming [[Recursion](#)->Memoization]
 - [{Getting Started}](#)
 - [Tabulation vs Memoization](#)
 - [How to solve DP problems?](#)
 - [Knapsack Problem](#)
 - [Rod Cutting](#) code ->[link](#)
 - [Coin changing Problem](#)
 - Practice on [TopCoder](#) and [SPOJ](#)
- Data Structures
 - **Refer CypherCreed's Learning Path on Data Structures & Algorithm.**
- Then Practice other topics by tags through on [CodeForces](#) or [CodeChef](#) and participate in every official competitions of these.

Other Resources:

Books:

1. [Competitive Programming 3\(Probably the best book on CP Ever Written\)](#)

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