

Competitive Programming

A cinematic still from the movie 'Avengers: Infinity War'. In the foreground, Thanos, with his red, wrinkled skin and a dark hood, looks off to the side with a somber expression. Behind him, the Guardians of the Galaxy—Star-Lord, Gamora, Drax, and Rocket Raccoon—are visible in a dark, stormy, and desolate landscape. The lighting is dramatic, with a mix of dark blues, purples, and reds, creating a somber and intense atmosphere.

I guide others to a treasure I cannot possess.

What is it?

1. Write a program to solve a problem in a competitive environment.
2. The solution should be time and memory efficient.
3. You have limited time to solve a problem.



Why do it?

- It will enhance your problem solving skills, which is very important.
- Help you in interviews.
- You also might get referrals.
- Makes you more faster and focussed.



Say you want to search an element in a sorted array

As an example - $\text{arr}[4] = \{1, 2, 3, 4\}$, $\text{key} = 4$

You can use linear search which would be $O(n)$

Using binary search the time complexity would be $O(\log n)$

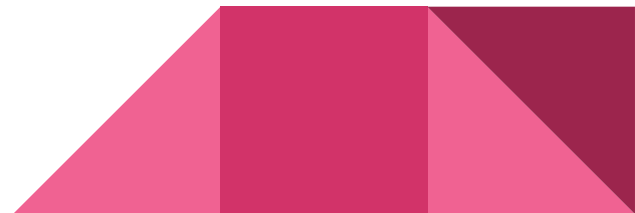


A Sample problem

<https://codeforces.com/contest/1186/problem/A>

There are many platforms where you can start practicing :

1. <https://www.codechef.com>
(<https://www.codechef.com/certification/data-structures-and-algorithms/prepare#foundation>)
2. <https://hackerearth.com> or hackerrank
3. Spoj.com - Sort it according to the most solved problems
4. <http://cp-algorithms.com/>
5. <https://atcoder.jp/contests/abc134>



What is actually required?

If you are a beginner :

- Pick a language, can be C/C++, python or Java
- Start learning data structures and algorithms. (Shared the resources)
- Need to be good at maths.
 - <https://artofproblemsolving.com/alcumus/problem>
 - <https://projecteuler.net> (Top 50 most attempted problems)

Take part in contests as much as possible.



Competitions

- Google code Jam
- Google Kickstart
- ACM -ICPC
- Facebook Hackercup
- TopCoder Open.
- Codechef Snackdown

