What is competitive coding ?

Competitive programming is a mind sport involving participants trying to program according to provided specifications. The contests are usually held over the Internet or a local network. Contestants are referred to as sport programmers. Competitive programming is recognized and supported by several multinational software and Internet companies, such as Google and Facebook.

Once you enter in programming you just don’t learn how to code but you also learn the “art of thinking”, by breaking your code into smaller chunks and then using your logic-based creativity to solve a problem from different angles.

Competitive Coding

Why to do competitive coding ?

The main goal of competitive coding is to prepare a programmer so that their logical thinking ability increases and they are able solve the problems in best possible way during challenging situations. Programming is a challenging role and once you enter this field you will encounter new challenges and you may have to solve some problems which no one has solved before or their solution doesn’t exist anywhere. At that time, you are expected to come up with a solution in the least possible time using your problem-solving and logical ability.

Another reason is that a lot of big companies, like Google, Facebook. Microsoft, Amazon hires through competitive programming, so if you want to get into these companies, then you really need to get your hands dirty in competitive programming. It doesn’t matter if you are a newbie programmer or you have written some code before, we will tell you some steps, approaches, and tips to prepare yourself for competitive programming.

Things to keep in mind while doing competitive coding

* Going through the problem statement properly.
* Finding various approaches to solve the problem.
* Select the most feasible algorithm/approach to solve the problem.
* First try to solve using pen and paper and generate the pseudo code.
* Go to each and every test case and try to solve every corner case.
* Go through your code and re-read the code before executing it.

How we could prepare for competitive coding ?

1. Firstly choose a programming language like C, C++, python, Java etc. So it’s good if you choose one out of these three, still there is no restriction if you are comfortable with another language. If you are a beginner, you can go with python because it’s easy to learn and syntax is user-friendly. If you have at least an intermediate hold on any of the programming language, you won’t face difficulty in writing the code using the syntax of it.
2. Learn the fundamental programming concepts which you will require for competitive coding thoroughly and the most important thing you need to know what, when and where to apply them. It means which data structure is suitable for what type of problem to get the optimal solution. You should know how to apply a perfect combination of both in the coding problem.

* Take the challenges solve and practice as many questions you can, to increase your problem solving abilitites and speed. You can try to solve questions on various websites like leetcode, hackerrank, codechef etc. These platforms run your code on a lot of inputs, then take out the output and store it in one place. They also have the authors code and the authors code is the correct code for the problem. They run the same set of inputs on the author’s code and create the outputs and after that, they match these two outputs. If these two outputs match, then your solution is considered as accepted and your code should pass all the test cases to get accepted.

Positive outputs of competitive coding

* Competitive programming is all about solving problems in a given time constraint. By practicing competitive programming, you start thinking quickly and within the given timeframe and this improves your mental agility and helps enhance your thinking ability. Competitive programming is all about solving a challenge in an efficient way and that too within the least possible time. So, this gives you a habit of thinking of solutions quickly and improving your quick thinking.
* Competitive programming can be fun for those who enjoy the thrill of competition. It can be an exhilarating experience for those who love to take part in competitions. Solving challenging problems that too within a timeframe boosts confidence and a sense of accomplishment. It also enhances focus and concentration. In Competitive programming, we usually get ‘Hard’ level problems, and having a competitive spirit helps us to not lose effort without solving the problem.
* Competitive programming is very important when it comes to technical interviews for software engineering-related jobs. Many tech giants use competitive programming contests as a medium of recruitment. Companies like Google, ServiceNow, Atlassian, etc. have technical interviews based on competitive programming problems. People having decent competitive programming profiles are considered to be logically and analytically more advanced and hence it helps you grab a good job.
* Competitive programming is one of the best ways to grow as a programmer. It helps you get a command over problem-solving, as you’ve to solve challenging problems within a time limit. Problems are based on a wide range of data structures and different algorithms, so by constant practice, you get a hold on this part as well. Also, many times there are some hidden errors in your code or in your colleague’s code, that you find and fix. And this practice improves your debugging skills, which is the most underrated yet useful practice. You learn to manage your time, as you solve a challenge within a time limit. It boosts your confidence and this is how competitive programming grows you as a programmer.
* One of the most rewarding advantages of competitive programming is the network you build in it. Participating in various coding contests gives you a chance to be a part of communities with like-minded people. Here in these communities, you get various important resources and guidance from experts. These communities also help you get so many opportunities like referrals, job-opening information, mentorship, etc.
* Competitive programming can be so much rewarding for programmers. Many tech giants host coding competitions having exclusive prizes which contain goodies, cash prizes, scholarships, paid courses, etc. and along with this these companies offer jobs and internships based on the performance in the competitions. For example, Meta organizes HackerCup every year and offers many gifts and jobs based on the performance in the rounds of HackerCup. Similarly, Google organizes HashCode. and to the top performers, Google gives a chance for an interview with Google.