

```
bfs(competitive_programming)
```

Introduction to Competitive Programming

Get started with competitive programming

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code-drills.com

April 23, 2017

Outline

- 1 What is competitive programming?
- 2 Solving your first problem
- 3 More sites
- 4 Contests
- 5 Conclusion

Outline

1 What is competitive programming?

- Definition
- Advantages

2 Solving your first problem

3 More sites

4 Contests

5 Conclusion

Competitive programming - Definition

Definition

Competitive programming is a mind sport usually held over the Internet [...], involving participants trying to program according to provided specifications.

A programming competition generally involves the host presenting a set of logical or mathematical problems to the contestants [...], and contestants are required to write computer programs capable of solving each problem.

Competitive programming - Advantages

- Develops computational thinking

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- Helps in job interviews

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Competitive programming - Advantages

- Develops computational thinking
- Helps in job interviews
- Helps in software jobs
- Is addictive and fun!

Outline

- 1 What is competitive programming?
- 2 Solving your first problem**
 - Prerequisite
 - Codechef
 - Coding and submitting
- 3 More sites
- 4 Contests
- 5 Conclusion

Prerequisite

- Know how to compile and run C++ program

Codechef

<https://www.codechef.com>

The screenshot shows the CodeChef website interface. At the top, there's a navigation bar with the CodeChef logo (a chef's hat) and the text "CODECHEF A Directi Educational Initiative". To the right of the logo, there's a user profile section showing "Hello [avatar] balajiganapath" and a "Logout" button. Below the navigation bar, there's a main banner for the "April Challenge". The banner features a cartoon chef driving a red car on a beach, with a large wooden sign that reads "April Challenge". The sign also specifies the start date as "7th April, 15:00 IST" and the end date as "17th April, 15:00 IST". Below the banner, there's a list of problem setters, contest admin, and translators. The website also has a sidebar with links to "PRACTICE", "COMPETE", "DISCUSS", "COMMUNITY", "HELP", and "ABOUT". At the bottom, there are sections for "Upcoming Contest" (April Challenge 2017), "Recent Questions", and "Announcements".

Secure | <https://www.codechef.com>

CODECHEF
A Directi Educational Initiative

▶ PRACTICE ▶ COMPETE ▶ DISCUSS | ▶ COMMUNITY ▶ HELP ▶ ABOUT

April Challenge
Start date : 7th April, 15:00 IST
End Date : 17th April, 15:00 IST

Problem Setters: Kamil Dębowski, Praveen Dhinwa, Goutam Saluja, Frank Chen, Pawel Kacprzak, Gaoyuan Chen and Sergey Nagin | Contest Admin & Tester: Kamil Dębowski | Translators: Sergey Kulik (Russian) Team VNOI (Vietnamese), Hu Zecong (Mandarin)

Performance • April Challenge 2017 • SnackDown Hubs • Practice

New to Programming and don't know where to start? [Start Here](#) Follow us - [f](#) [t](#) [g+](#) [yt](#) [Q](#)

Upcoming Contest
[April Challenge 2017](#)

Recent Questions
626 Help in: Hackerearth November Circuits: ...

Announcements
• Unveiling your star studded gift!

First problem - Add two numbers

<https://www.codechef.com/problems/FLOW001>

The screenshot shows the CodeChef website interface. At the top, there's a navigation bar with links for PRACTICE, COMPETE, DISCUSS, COMMUNITY, HELP, and ABOUT. Below this is a banner for a 'SNACK DOWN' competition with a deadline of May 20 at 5:00 PM IST. The main content area displays the problem 'Add Two Numbers' with its code 'FLOW001'. It includes a 'Submit' button with a green checkmark, social media sharing options, and a description of the problem. On the right side, there are buttons for 'My Submissions' and 'All Submissions', and a section for 'Successful Submissions'.

Secure | <https://www.codechef.com/problems/FLOW001>

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SNACK DOWN 7
Cook your way to success

Compete & win \$20.5K | Qualifier starts on 20 May, SAT 5:00 PM IST | Duration: 72 hrs | 36 Days 21 Hrs 4 Mins 47 Secs | Refer a friend

[Home](#) » [Practice\(Beginner\)](#) » Add Two Numbers

Add Two Numbers

Problem Code: FLOW001

[Submit](#) ✓

[Tweet](#) [Like](#) [Share](#) 7 people like this. Be the first of your friends.

All submissions for this problem are available.

Shivam is the youngest programmer in the world, he is just 12 years old. Shivam is learning programming and today he is writing his first program.

Program is very simple, Given two integers A and B, write a program to add these two numbers.

[My Submissions](#) [All Submissions](#)

Successful Submissions +

First problem - Examples

Input

The first line contains an integer T , total number of test cases. Then follow T lines, each line contains two Integers A and B .

Output

Add A and B and display it.

Constraints

- $1 \leq T \leq 1000$
- $1 \leq A, B \leq 10000$

Example

Input

```
3
1 2
100 200
10 40
```

Output

```
3
300
50
```

Author:  [vicky002](#)

First problem - Code

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main() {
6     int T;
7     cin >> T;
8
9     for(int i = 0; i < T; i++) {
10         int a, b;
11         cin >> a >> b;
12         int ans = a + b;
13         cout << ans << endl;
14     }
15
16     return 0;
17 }
```

First problem - Submit

<https://www.codechef.com/submit/FLOW001>

The screenshot shows the CodeChef submission interface for problem FLOW001. The browser address bar displays the URL <https://www.codechef.com/submit/FLOW001>. The page title is "SUBMIT A SOLUTION: FLOW001". Below the title, there is a prompt "Please insert your source code:". A code editor is open, showing a C++ solution. The code is as follows:

```
1 #include<iostream>
2
3 using namespace std;
4
5 int main() {
6     int T;
7     cin >> T;
8
9     for(int i = 0; i < T; i++) {
10         int a, b;
11         a >> b;
12         s = a + b;
13         ans << endl;
14     }
15 }
```

Below the code editor, there is a list of compilers. The selected compiler is "C++14(g++ 4.9.2)". The list includes:

- ADA 95(gnat 4.9.2)
- Assembler(nasm 2.11.05)
- Bash(bash-4.3.30)
- Brainf**k(bf-1.0.5)
- C(gcc-4.9.2)
- C99 strict(gcc 4.9.2)
- OCaml(ocaml-opt 4.01.0)
- Clojure(clojure 1.7)
- Clips(clips-6.24)
- C++(gcc-4.3.2)
- C++(gcc-4.9.2)
- C++14(g++ 4.9.2)
- C#(gmcs 3.10)
- D(gdc 4.9.2)
- Erlang(erlang-5.6.3)
- Fortran(gfortran 4.9.2)
- F#(fsharp-3.10)
- Go(1.4)
- Haskell(ghc-7.6.3)
- Intercal(ick-0.28-4)
- C++14(g++ 4.9.2)

The status bar at the bottom of the code editor shows "Total: Ln 17, Ch 212". A "Submit" button is located at the bottom left of the page. A green checkmark icon is visible in the bottom right corner of the page.

First problem - Verdict

The screenshot shows a web browser window with the CodeChef website. The browser's address bar shows the URL `https://www.codechef.com/submit/complete/13316657`. The CodeChef logo is visible at the top left, and the user's name 'balajiganapath' is in the top right. The main content area displays a 'Successful Submission' message for the 'Add Two Numbers' problem. A box in the center shows a green checkmark and the text 'Correct Answer' and 'Execution Time: 0.00'. Below this, there is a link to 'My Submissions'. The footer contains various links, a copyright notice for 2009 Directi Group, and a 'Directi' logo with the text 'The time now is: 08:52:45 PM Your IP: 106.51.132.31'.

CodeChef User | CodeChef | Add Two Numbers

Secure | `https://www.codechef.com/submit/complete/13316657`

CODECHEF
A Directi Educational Initiative

HELLO balajiganapath

Logout

PRACTICE COMPETE DISCUSS COMMUNITY HELP ABOUT

Home » Practice(school) » Add Two Numbers » Successful Submission

Successful Submission

Correct Answer
Execution Time: 0.00

Want to see your old submissions?
That's ok, you can always go to [My Submissions](#) and see how you did.

CodeChef is a non-commercial competitive programming community

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In order to report copyright violations of any kind, send an email to copyright@codechef.com

Directi
Design/Develop/Deploy/Scale
The time now is: 08:52:45 PM
Your IP: 106.51.132.31

CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of algorithms, computer programming and programming contests. At CodeChef we work hard to revive the geek in you by hosting a programming contest at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to algorithms, binary search, technicalities like array size and the likes. Apart from providing a platform for programming competitions, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of computer programming.

Practice Section - A Place to hone your 'Computer Programming Skills'

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More sites - spoj

http://www.spoj.com/

The screenshot shows the SPOJ website with a navigation bar at the top containing links for PROBLEMS, STATUS, RANKS, DISCUSS, CONTESTS, and a user profile icon. The main content area is divided into three columns:

- Learn programming:** A section for beginners with a description of elementary problems and a 'Basic problems' button.
- Practice algorithms:** A section for users looking to improve their skills, with a 'coming soon!' button.
- Take the challenge:** A section for users familiar with algorithms and data structures, with a 'Random problem' button.

Below these columns, there are three more sections:

- Latest problems:** A list of recent problems including Fibonacci Polynomial, ShaatChara, Binary Game Reloaded, Matrix Multiplication 2K, Simple Path, Just One Swap, Math is Love, Ada and Zoo, Eat Pray Love, and Fractals.
- TOP Coders last week:** A table showing the top performers of the week.
- SPOJ in other languages:** A list of links to SPOJ in various languages.
- Popular contests:** A list of popular contests including Constants, High School Problems Archive, Olympiad in Informatics, and Shortening codes.

The bottom of the page features a footer with navigation icons and a green checkmark icon.

More sites - codeforces

<http://codeforces.com/>

CODEFORCES^β
Sponsored by Telegram

HOME CONTESTS GYM PROBLEMSET GROUPS RATING API RCC VK CUP

Join the [official Codeforces group](#) in VK. There we will publish announcements of rounds and important news.

HFT Battle 2017

By [malcolm](#), 2 days ago, translation,

Hello Codeforces!

HFT Battle 2017 is going on – the trading algorithms competition, in which every participant can try on an HFT researcher's hat. The goal is to create a stable and profitable HFT algorithm by researching a market microstructure and a behaviour of the financial instrument. In May we will be hosting another 24-hour competition in code optimization and speeding up based on algorithms created during HFT Battle. We hope that Codeforces users will especially like this format :)

During the competition we provide you a set of real HFT-instruments for research and strategy analysis and real market data from one of the world's largest exchanges. Same as last year, trading conditions are simplified compared to the real ones: there are lower fees and round-trip.

Also there are some significant differences from the previous competition:

- You are able to create your strategies both in C++ or Python.
- We made it possible to participate in teams. To do this you should create a single account for the entire team and provide the information about one of the participants during the registration process.
- You can call out any other participant for a duel, where your strategies can see and affect each other's transactions. Let the battle begin!

How to start

To make the strategy development easier, we have prepared the [sample strategy](#) and collected few ideas for the algorithm improvement [at one place](#) with the corresponding code examples.

We suggest you to start with the brief documentation, which will be enough for you to become familiar with the competition system. Also we have developed the [offline development system](#): <https://github.com/ibrahimciftci/ibrahimciftci.com>.

→ Pay attention

Before contest
[Educational Codeforces Round 19](#)
22:40:26
[Register now »](#)

Like 112 people like this. Be the first of your friends.

→ Balajiganapathi

Rating: 2029
Contribution: +117

- Settings
- Blog
- Teams
- Submissions
- Problemset
- Groups
- Propose a contest/problem
- Talks
- Contests

Balajiganapathi

→ Top rated

#	User	Rating
1	tourist	3534
2	moejy0villiv	3286
3	alinta	3174
4	-XraY-	3170

More sites - topcoder

<https://arena.topcoder.com/#/u/dashboard>

The screenshot shows the TopCoder Arena dashboard for user Balajiganapathi. The interface is dark-themed and includes a navigation bar at the top with icons for home, profile, and other features. The main content area is titled "Competition Arena: Dashboard" and displays several sections:

- Active Matches:** Shows the 2017 TCO Algorithm Round 1B is completed. Below this is a table with columns for Match Summary, Match Schedule, and Rooms. The Match Schedule section lists various phases with their start and end times.

Phase	Started at	Ended at
Registration Phase	Apr 8, 9:30 PM IST	Apr 8, 9:25 PM IST
Coding Phase	Apr 8, 9:30 PM IST	Apr 8, 10:45 PM IST
Intermission Phase	Apr 8, 10:45 PM IST	Apr 8, 10:50 PM IST
Challenge Phase	Apr 8, 10:50 PM IST	Apr 8, 11:05 PM IST
System Test Phase	Apr 8, 11:05 PM IST	Apr 8, 11:05 PM IST
- Match Schedule:** A calendar view for April 2017. The date 14 is highlighted, indicating the current match day.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6
- Now chatting in: Chat Room 1:** A section for chat, showing a list of users who are currently in the chat room.
 - Rating Key
 - Who's here (17)
 - abedavera
 - Ajith_Panneer
 - anshulmittal
 - aochiai
 - arvind_k
- Profile Overview & Important Messages:** A section showing the user's profile information.
 - Balajiganapathi** (Rating: 1662)
 - Competed in: 230 matches
 - Last Login: 2017-04-12 10:32 PM IST

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Regular short contests

- Topcoder SRM (Single Round Match)
- Codeforces Rounds
- Codechef cook off and lunchtime

Regular long contests

- Topcoder marathon
- Codechef long contests
- Codeforces educational rounds and marathon

Annual contests

- IOI
- ICPC
- Topcoder Open
- Google Codejam
- Facebook Hackercup
- Codechef Snackdown

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Thank you