${\tt bfs(competitive\_programming)}$ 



# **Introduction to Competitive Programming**

Get started with competitive programming

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- 1 What is competitive programming?
- Solving your first problem
- More sites
- Contests
- Conclusion



- What is competitive programming?
  - Definition
  - Advantages
- Solving your first problem
- More sites
- 4 Contests
- 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.





Develops computational thinking





- Develops computational thinking
- Helps in job interviews





- Develops computational thinking
- Helps in job interviews
- Helps in software jobs





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





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





# Prerequisite

• Know how to compile and run C++ program



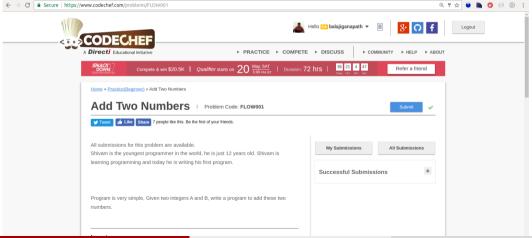
#### **Codechef**

#### https://www.codechef.com

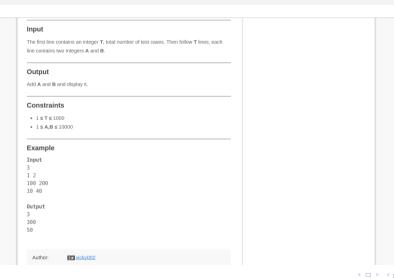


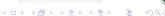
### First problem - Add two numbers

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



### First problem - Examples





### First problem - Code

1 #include <iostream>

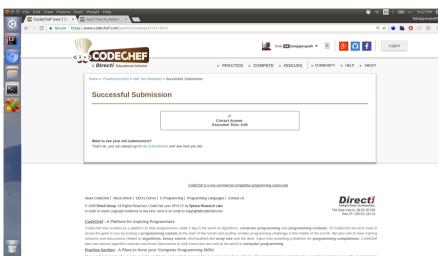
```
3 using namespace std;
5 int main() {
      int T;
      cin >> T;
      for(int i = 0; i < T; i++) {
           int a, b;
10
           cin >> a >> b:
11
           int ans = a + b;
12
           cout << ans << endl;</pre>
13
14
15
      return 0;
16
17 }
```

# First problem - Submit

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

```
← → C: A Secure | https://www.codechef.com/submit/ELOW001
                                                                                                                                              Q & B 0 0 0 i
                                 SUBMIT A SOLUTION: FLOW001
                                 Please insert your source code:
                                                           A O I o 12 M T CPP T W J Q I W
                                      |#include<iostream>
                                     3 using namespace std:
                                     5 int main() {
                                           int T;
                                           cin >> T:
                                           for(int i = 0: i < T: i++) {
                                                int a. b:
                                                        a >> h:
                                  ADA 95(gnat 4.9.2)
                                  Assembler(nasm 2.11.05)
                                                        ans << endl:
                                  Bash(bash:4.3.30)
                                 Brainf**k(bff-1.0.5)
                                 C(ncc-4.9.2)
                                 C99 strict(acc 4.9.2)
                                 Ocami(ocamiopt 4.01.0)
                                 Cloiure(cloiure 1.7)
                                 Clips(clips-6.24)
                                 C++(acc-4.3.2)
                                 C++(gcc-4.9.2)
                                                                 Ln 17, Ch 212
                                 C#(amcs 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(abc-7.6.3)
                                  Intercal(ick-0.28-4)
                                                                                                                                                                       (리) (리) (리)
```

# First problem - Verdict







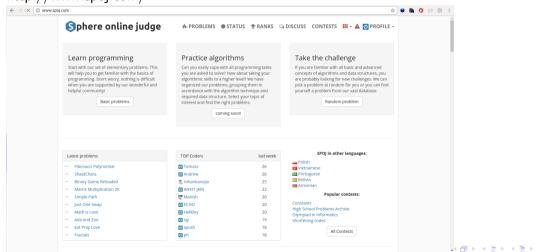
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### More sites - spoj

#### http://www.spoj.com/



#### More sites - codeforces

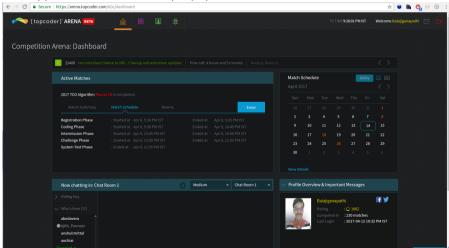
#### http://codeforces.com/





### More sites - topcoder

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



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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



