

[Home](#) » [Practice\(Extcontest\)](#) » Yet Another Number Game

Yet Another Number Game

Problem Code: **NUMGAME**

Submit



Alice and Bob play the following game. They choose a number N to play with. The rules are as follows :

- 1) Alice plays first, and the two players alternate.
- 2) In his/her turn, a player can subtract from N any proper divisor (not equal to N) of N. The number thus obtained is the new N.
- 3) The person who cannot make a move in his/her turn loses the game.

Assuming both play optimally, who wins the game ?

Input :

The first line contains the number of test cases T. Each of the next T lines contains an integer N.

Output :

Output T lines, one for each test case, containing "ALICE" if Alice wins the game, or "BOB" otherwise.

Sample Input :

```
2
1
2
```

Sample Output :

```
BOB
ALICE
```

Constraints :

```
1 <= T <= 10000
1 <= N <= 1000000000
```

Note : For the first test case, Alice cannot make any move and hence Bob wins the game. For the second test case, Alice subtracts 1 from N. Now, Bob cannot make a move and loses the game.

All submissions for this problem are available.

Author: [syco_adm](#)

Editorial: <https://discuss.codechef.com/problems/NUMGAME>

Tags: [easy-medium](#), [game-theory](#), [number-theory](#), [syco_adm](#)

Date Added: 11-04-2010

Time Limit: 1 secs

Source Limit: 50000 Bytes

Languages: CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYPY, PYP3, TEXT, CPP17, PAS fpc, RUBY, PHP, NODEJS, GO, HASK, PERL, SCALA, kotlin, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, R, CAML, rust, ASM, FORT, FS, LISP clisp, SQL, swift, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, COB, SCM chicken, SCM qobi, ST, NEM, SQLQ

Submit

My Submissions

All Submissions

Successful Submissions

+

Comments ▶

CodeChef is a competitive programming community.

[About CodeChef](#) | [Contact Us](#)

The time now is: 02:49:33 PM
Your IP: 157.47.88.248

CodeChef uses SPOJ © by [Sphere Research Labs](#)

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

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 two smaller programming challenges at the middle and end 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'

Try your hand at one of our many practice problems and submit your solution in the language of your choice. Our **programming contest** judge accepts solutions in over 55+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

Compete - Monthly Programming Contests, Cook-off and Lunchtime

Here is where you can show off your **computer programming skills**. Take part in our 10 days long monthly coding contest and the shorter format Cook-off and Lunchtime **coding contests**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), \$700 (for Global Community) and lots more CodeChef goodies up for grabs.

Programming Tools

Practice Problems

Initiatives

Policy

[Online IDE](#)[Easy](#)[Go for Gold](#)[Terms of Service](#)[Upcoming Coding Contests](#)[Medium](#)[CodeChef for Schools](#)[Privacy Policy](#)[Contest Hosting](#)[Hard](#)[College Chapters](#)[Refund Policy](#)[Problem Setting](#)[Challenge](#)[CodeChef for Business](#)[Code of Conduct](#)[CodeChef Tutorials](#)[Peer](#)[Bug Bounty Program](#)[CodeChef Wiki](#)[School](#)[FAQ's](#)