



Counter Test For CHEFSUM

Problem Code: **CHEFCOUN**

Submit (/OCT17/submit/CHEFCOUN)



Tweet

Like

Share

7 people like this. Be the first of your friends.

Read problems statements in [mandarin chinese](#)

<http://www.codechef.com/download/translated/OCT17/mandarin/CHEFCOUN.pdf>

and [vietnamese](#)

<http://www.codechef.com/download/translated/OCT17/vietnamese/CHEFCOUN.pdf>

as well.

Once Chef was writing test data for the problem [CHEFSUM](#)

<https://codechef.com/problems/CHEFSUM>. For your convenience, the summary of this problem is provided as below.

You are given an array **a** of size **n**. Let **prefSum[i]** denote the sum of first **i** elements and **sufSum[i]** denote the sum of last **n - i + 1** elements of the array **a**. You have to find the least index **i** such that value of **prefSum[i] + sufSum[i]** is the minimum possible. The bounds/constraints on **n** could be as large as 10^5 .

A newbie programmer was trying to solve this problem. He didn't take care of the fact that the values of **prefSum[i] + sufSum[i]** might not fit into *unsigned int* data type. He wrote the following C++ code to solve the problem.



```
int wrongSolver(std::vector<unsigned int> a) {
    int n = a.size();
    std::vector<unsigned int> prefSum(n), sufSum(n);
    prefSum[0] = a[0];
    for (int i = 1; i < n; i++) {
        prefSum[i] = prefSum[i - 1] + a[i];
    }
    sufSum[n - 1] = a[n - 1];
    for (int i = n - 2; i >= 0; i--) {
        sufSum[i] = sufSum[i + 1] + a[i];
    }
    unsigned int mn = prefSum[0] + sufSum[0];
    int where = 1;
    for (int i = 1; i < n; i++) {
        unsigned int val = prefSum[i] + sufSum[i];
        if (val < mn) {
            mn = val;
            where = i + 1;
        }
    }
    return where;
}
```



Assume that an *unsigned int* is 4 bytes long, i.e. it stores values from **0** up to $2^{32} - 1$.

Addition of two unsigned int's **x** and **y** is done as **(x + y) modulo 2^{32}** . This way, you can see that whenever the value of an unsigned int exceeds the maximum possible value ($2^{32} - 1$), it wraps around.

My Submissions

(/OCT17/status/CHEFCOUN, asprazz2658)

All Submissions

(/OCT17/status/CHEFCOUN, asprazz2658)

Successful Submissions

+

Chef as a problem setter knows that the above program should not get an AC. Hence, he wants to generate a counter case to fail this solution. He asks your help in generating such a counter case.

Input

The first line of the input contains an integer **T** denoting the number of test cases.

The only line of each test case contains a single integer **n** denoting the number of integers in the array **a**.

Output

For each test case, output **n** space separated integers in a line denoting the content of array **a** for which the above program will give a wrong answer.

Constraints

- $1 \leq T \leq 10$

Subtasks

- **Subtask #1 : (50 points)** $99991 \leq n \leq 10^5$, $1 \leq a_i \leq 2 * 10^9$
- **Subtask #2 : (50 points)** $99991 \leq n \leq 10^5$, $1 \leq a_i \leq 10^5$

Author: [admin2 \(/users/admin2/\)](/users/admin2/)

Tester: 7★ [alex_2008 \(/users/alex_2008/\)](/users/alex_2008/)

Date Added: 1-09-2017

Time Limit: 1 secs

Source Limit: 50000 Bytes

Languages: ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 6.3, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE, PRLG, PYPY, PYTH, PYTH 3.5, RUBY, SCALA, SCM chicken, SCM guile, SCM qobi, ST, TCL, TEXT, WSPC

[Submit \(/OCT17/submit/CHEFCOUN/\)](/OCT17/submit/CHEFCOUN/)

Comments ▶

[CodeChef is a non-commercial competitive programming community](#)

[About CodeChef \(http://www.codechef.com/aboutus/\)](http://www.codechef.com/aboutus/) [About Directi \(http://www.directi.com/\)](http://www.directi.com/) [CEO's Corner \(http://www.codechef.com/ceoscorner/\)](http://www.codechef.com/ceoscorner/)
[C-Programming \(http://www.codechef.com/c-programming/\)](http://www.codechef.com/c-programming/) [Programming Languages \(http://www.codechef.com/Programming-Languages/\)](http://www.codechef.com/Programming-Languages/) [Contact Us \(http://www.codechef.com/contactus/\)](http://www.codechef.com/contactus/)

© 2009 Directi Group (<http://directi.com/>). All Rights Reserved. CodeChef uses SPOJ © by Sphere Research Labs (<http://www.sphere-research.com/>)
In order to report copyright violations of any kind, send in an email to copyright@codechef.com (<mailto:copyright@codechef.com>)

Directi (<http://directi.com>)
Intelligent People. Uncommon Ideas.
The time now is: 01:38:51 PM
Your IP: 43.246.161.32

CodeChef (<http://www.codechef.com>) - 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 (<https://www.codechef.com/problems/easy>) - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ 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 (<https://www.codechef.com/problems/easy>) - Monthly Programming Contests and Cook-offs

Here is where you can show off your **computer programming skills**. Take part in our 10 day long monthly coding contest and the shorter format Cook-off **coding contest**. 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

[Online IDE \(<https://www.codechef.com/ide>\)](https://www.codechef.com/ide)

[Upcoming Coding Contests \(<http://www.codechef.com/contests#FutureContests>\)](http://www.codechef.com/contests#FutureContests)

[Contest Hosting \(<http://www.codechef.com/hostyourcontest>\)](http://www.codechef.com/hostyourcontest)

[Problem Setting \(<http://www.codechef.com/problemsetting>\)](http://www.codechef.com/problemsetting)

[CodeChef Tutorials \(<http://www.codechef.com/wiki/tutorials>\)](http://www.codechef.com/wiki/tutorials)

[CodeChef Wiki \(<https://www.codechef.com/wiki>\)](https://www.codechef.com/wiki)

Practice Problems

[Easy \(<https://www.codechef.com/problems/easy>\)](https://www.codechef.com/problems/easy)

[Medium \(<https://www.codechef.com/problems/medium>\)](https://www.codechef.com/problems/medium)

[Hard \(<https://www.codechef.com/problems/Hard>\)](https://www.codechef.com/problems/Hard)

[Challenge \(<https://www.codechef.com/problems/challenge>\)](https://www.codechef.com/problems/challenge)

[Peer \(<https://www.codechef.com/problems/extcontest>\)](https://www.codechef.com/problems/extcontest)

[School \(<https://www.codechef.com/problems/school>\)](https://www.codechef.com/problems/school)

[FAQ's \(<https://www.codechef.com/wiki/faq>\)](https://www.codechef.com/wiki/faq)

Initiatives

[Go for Gold \(<http://www.codechef.com/qoforgold>\)](http://www.codechef.com/qoforgold)

[CodeChef for Schools \(<http://www.codechef.com/school>\)](http://www.codechef.com/school)

[Campus Chapters \(\[http://www.codechef.com/campus_chapter/about\]\(http://www.codechef.com/campus_chapter/about\)\)](http://www.codechef.com/campus_chapter/about)

[Domain Registration in India \(<http://www.bigrock.in/>\)](http://www.bigrock.in/) and [Web Hosting \(<http://www.bigrock.com/web-hosting/>\)](http://www.bigrock.com/web-hosting/) powered by BigRock

Got skills? Get Certified. Get Hired

Know more (https://www.codechef.com/certification/about?utm_source=DI17R128&utm_medium=contest&utm_campaign=Directi%20Recruitment)