

PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

A. Candies and Two Sisters

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

There are two sisters Alice and Betty. You have n candies. You want to distribute these n candies between two sisters in such a way that:

- Alice will get a ($a > 0$) candies;
- Betty will get b ($b > 0$) candies;
- each sister will get some **integer** number of candies;
- Alice will get a greater amount of candies than Betty (i.e. $a > b$);
- all the candies will be given to one of two sisters (i.e. $a + b = n$).

Your task is to calculate the number of ways to distribute exactly n candies between sisters in a way described above. Candies are indistinguishable.

Formally, find the number of ways to represent n as the sum of $n = a + b$, where a and b are positive integers and $a > b$.

You have to answer t independent test cases.

Input

The first line of the input contains one integer t ($1 \leq t \leq 10^4$) — the number of test cases. Then t test cases follow.

The only line of a test case contains one integer n ($1 \leq n \leq 2 \cdot 10^9$) — the number of candies you have.

Output

For each test case, print the answer — the number of ways to distribute exactly n candies between two sisters in a way described in the problem statement. If there is no way to satisfy all the conditions, print 0.

Example

input	Copy
6 7 1 2 3 2000000000 763243547	
output	Copy
3 0 0 1 999999999 381621773	

Note

For the test case of the example, the 3 possible ways to distribute candies are:

- $a = 6, b = 1$;
- $a = 5, b = 2$;
- $a = 4, b = 3$.

Codeforces Round 634 (Div. 3)

Finished

Practice

Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

Submit?

Language: GNU GCC C11 5.1.0

Choose file: Choose File No file chosen

Submit

Last submissions

Submission	Time	Verdict
224727861	Sep/23/2023 13:02	Accepted
224727745	Sep/23/2023 13:00	Wrong answer on test 1

Problem tags

math *800

No tag edit access

Contest materials

Announcement

Tutorial

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The only programming contests Web 2.0 platform
Server time: Oct/03/2023 11:36:44^{UTC+5.5} (k2).
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