CODE FORCES
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HOME   TOP   CONTESTS   GYM   **PROBLEMSET**   GROUPS   RATING   API   CALENDAR   HELP   10 YEARS! 🎁

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 ($1 \le t \le 10^4$) — the number of test cases. Then t test cases follow.

The only line of a test case contains one integer n ($1 \le n \le 2 \cdot 10^9$) — 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:

Codeforces Round #634 (Div. 3)
Finished

→ 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]

→ Problem tags

math   *800

No tag edit access

→ Contest materials

- Announcement   ✕
- Tutorial   ✕

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