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[HOME](#) [TOP](#) [CATALOG](#) [CONTESTS](#) [GYM](#) [PROBLEMSET](#) [GROUPS](#) [RATING](#) [EDU](#) [API](#) [CALENDAR](#) [HELP](#)
[PROBLEMS](#) [SUBMIT](#) [STATUS](#) [STANDINGS](#) [CUSTOM TEST](#)

A. Calculating Function

time limit per test: 1 second

memory limit per test: 256 megabytes

For a positive integer n let's define a function f :

$$f(n) = -1 + 2 - 3 + \dots + (-1)^n n$$

Your task is to calculate $f(n)$ for a given integer n .

Input

The single line contains the positive integer n ($1 \leq n \leq 10^{15}$).

Output

Print $f(n)$ in a single line.

Examples

input

4

output

2

input

5

output

-3

Note

$$f(4) = -1 + 2 - 3 + 4 = 2$$

$$f(5) = -1 + 2 - 3 + 4 - 5 = -3$$

Codeforces Round 277 (Div. 2)

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→ Virtual participation

Virtual contest is a way to take part in past contests, 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 problems 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.

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→ Contest materials

- Announcement (en)

- Tutorial (en)



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