

HOME CONTESTS GYM PROBLEMSET GROUPS RATING API AIM TECH ROUND 🖫 VK CUP 🖫 SECTIONS

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS ROOM STANDINGS CUSTOM INVOCATION

E. Interesting Game

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

Two best friends Serozha and Gena play a game.

Initially there is one pile consisting of n stones on the table. During one move one pile should be taken and divided into an arbitrary number of piles consisting of $a_1 > a_2 > ... > a_k > 0$ stones. The piles should meet the condition $a_1 - a_2 = a_2 - a_3 = ... = a_{k-1} - a_k = 1$. Naturally, the number of piles k should be no less than two.

The friends play in turns. The player who cannot make a move loses. Serozha makes the first move. Who will win if both players play in the optimal way?

Input

The single line contains a single integer n ($1 \le n \le 10^5$).

Output

If Serozha wins, print k, which represents the minimal number of piles into which he can split the initial one during the first move in order to win the game.

If Gena wins, print "-1" (without the quotes).

Examples input

3		
output		
2		
input		
6		
output		
-1		
input		
100		
output		
8		

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Beta Round #73 (Div. 2 Only)

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 ACM-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

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Submit?

Language: GNU G++11 5.1.0

Choose

Choose File No file chosen

▼

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

ightarrow Problem tags	
No tags yet	No tag edit access

→ Contest materials				
•	Announcement	×		
•	Tutorial #1	×		
•	Tutorial #2	×		

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