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Generate Tests!

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Generate Tests!

0 points possible (ungraded)

Input file:	testgen.in
Output file:	testgen.out
Time limit:	2 seconds
Memory limit:	256 megabytes

When you solve programming problems, it is possible to get one of the *Wrong Answer*, *Runtime Error* or *Time Limit Exceeded* outcomes on a test with a quite big number.
It often happens that the mistake is too deep, and you cannot check it by small tests you can write by hand. It can also happen that it is too difficult to come up with such a test at all. In this case, test generators can help. A test generator is a small program which creates various tests for the problem you are solving.
Consider a problem, for which the program should print exactly one number. A maximal test is a test, the answer for which is the maximum possible for this problem. Certain typical mistakes in solutions can be found by using maximal tests. Often, a maximal test may be generated by a small test generator.
Assume you are solving a simple problem: among the numbers from 2 to N, find the number x, such that it has the maximum possible number of divisors (the numbers $1 \leq y \leq x$ such that x mod y = 0), and print the number of divisors of x.
Please find the number of maximal tests for the constraint $2 \leq N \leq K$.

Input
The first line contains a single integer number K ($2 \leq K \leq 10^7$).

Output
Output the number of maximal tests for this problem with the constraint K.

Examples

testgen.in	testgen.out

11	6
Download	Download
12	1
Download	Download

Note
In the first example, all the numbers from 6 to 11, inclusively, are maximal tests, because no number from an interval [2; 11] has more than four divisors. In the second example, the single possible maximal test is 12.

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