

A. LCM Challenge

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Some days ago, I learned the concept of LCM (least common multiple). I've played with it for several times and I want to make a big number with it.

But I also don't want to use many numbers, so I'll choose three positive integers (they don't have to be distinct) which are not greater than n . Can you help me to find the maximum possible least common multiple of these three integers?

Input

The first line contains an integer n ($1 \leq n \leq 10^6$) — the n mentioned in the statement.

Output

Print a single integer — the maximum possible LCM of three not necessarily distinct positive integers that are not greater than n .

Examples

input
9
output
504

input
7
output
210

Note

The least common multiple of some positive integers is the least positive integer which is multiple for each of them.

The result may become very large, 32-bit integer won't be enough. So using 64-bit integers is recommended.

For the last example, we can chose numbers 7, 6, 5 and the LCM of them is $7 \cdot 6 \cdot 5 = 210$. It is the maximum value we can get.

→ 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 Round #146 (Div. 1)

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 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

→ Problem tags

number theory

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 