C. 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.