Problem name: **Special numbers**

Sherlock has to save his friends from a bomb planted by his enemy Moriarty. Moriarty likes some special numbers who are positive numbers and have prime factors as only 3, 5, and 7. For example, 1, 3, 5, 7, 9, 15, 21, 25, 27 and 35 are the first 10 special numbers.

He told Sherlock that the clue to diffuse the bomb is the n-th such special number.

Sherlock took the second number 3 and multiplied by 3, 5, and 7 to find 9, 15, and 21. He took the third number 5 and multiplied by 3, 5, and 7 to find 15, 25 and 35. He kept on doing this for the next special number and got confused as to how he should avoid repetition of special numbers and keep the order of the number he gets to get the special numbers in increasing order and hence asked your help.

Help Sherlock find this clue.

Input

The first line contains the integer n (1 <= n <= 10^3)

Output

For each testcase, output a single integer denoting the n-th special number

The answer may be overflow the integer max value

Examples:

input 1

1

output 1

1

input 2

2

output 2

3

input 3

4

output 3

7

input 4

5

output 4

9

input 5

20

output 5

175

input 6

540

output 6

506345175