Problem A. Maximum Multiple

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	256 mebibytes

Given an integer n, Chiaki would like to find three positive integers x, y and z such that: $n = x + y + z$, $x \mid n$, $y \mid n$, $z \mid n$ and xyz is maximum.

Input

There are multiple test cases. The first line of input contains an integer T ($1 \leq T \leq 10^6$), indicating the number of test cases. For each test case:

The first line contains an integer n ($1 \leq n \leq 10^6$).

Output

For each test case, output an integer denoting the maximum xyz. If there no such integers, output -1 instead.

Example

standard input	standard output
3	-1
1	-1
2	1
3	