Eggs

John decides one fine day that he's going to throw his entire collection of *N* eggs at the wall. Now, throwing them one-by-one would be far too boring, so John devises a new system to keep himself entertained. He will throw the eggs in batches of possibly differing size. John decides each batch size according to the following rules:

1. John dislikes fair splits, so the batch size must have fewer than three positive divisors (it should be a prime number).
2. John dislikes leftovers. Thus, subject to the above condition, the batch size must minimize the remainder when the current number of eggs is divided by the batch size.
3. John enjoys loud noises. Thus, subject to the above two conditions, the batch size must be as large as possible.

Every time John throws a batch at the wall, he re-calculates the next batch size. How many batches does John end up throwing?

Input Format
The input consists of a series of no more than 1337 test cases with one integer per line. Each line contains a single number *N*. Input ends on EOF.

Constraints
- $N \leq 25000$

Output Format
For each test case, output a single integer: the number of batches of eggs John throws at the wall.

Sample Input	**Sample Output**
5 8 10	1 3 2