

Problem E: 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.
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 Specification:

The input consists of a series of no more than 1337 test cases with one integer per line. Each line contains $N \leq 1000000$. Input ends on EOF.

Output Specification:

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

Sample Input:

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5
8
10
```

Sample Output:

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1
3
2
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