Special Number Count

Accuracy: 49.66% Submissions: 4847 Points: 40

> **Special Number:** *It is a positive integer with the greatest common divisor (https://en.wikipedia.org/wiki/Greatest_common_divisor) of the sum of* ***quartic*** *power of its digits and the* ***product*** *of its digits greater than* ***1****.*

For example, 123 is a ***special number***. (*sum of quartic power of its digits = $1^4 + 2^4 + 3^4 = 1 + 16 + 81 = 98$ and the product of its digits = 1 * 2 * 3 = 6. The greatest common divisor of 98 and 6 is 2, which is greater than 1*)

You are given an integer **n,** calculate the number of special numbers **x** (**1 ≤ x ≤ n**).

Input Format:
The first line of the input contains a single integer **T** denoting the number of test cases. The description of **T** test cases is as follows:

- The first and the only line of each test case contains an integer ***n*.**

Output Format:
For each test case, print the number of special numbers **x** (1 ≤ **x** ≤ **n**) followed by a newline character.
Note: Generated output is white space sensitive, do not add any extra spaces on unnecessary newline characters.

Constraints:
1 ≤ **T** ≤ 5
1 ≤ **n** ≤ 10^{18}

Example: