Primal Fear

Changu and Mangu are afraid of prime numbers, but they are not afraid of all prime numbers. They were afraid of only a special kind of prime numbers. They are afraid of the prime numbers (without the digit zero, they love all the primes which have digits 0 in them) that remain prime no matter how many of the leading digits are omitted. For example, they are afraid of 4632647 because it doesn't have the digit 0 and each of its truncations (632647, 32647, 2647, 647, 47, and 7) are primes.

You are given a simple task, given a number of N, find out the number of primes not greater that N, that changu and mangu are afraid of.

Input

The first line contains T, the number of test cases. T lines follow, each containing a number N.

Output

On each line print the number of primes not greater that N, that changu and mangu are afraid of.

Example

Input:
3
2
3
4

Output:
1
2
2

Constraints

$T \le 10^5$

$1 \le N < 10^6$