Primes concatenation

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	64 megabytes

Prime numbers are fascinating mathematical objects that form the building block of all other integers. Every integer can be expressed as the product of prime numbers, but not all numbers can be written as a concatenation of prime numbers.

In this problem, you'll be given a big integer N consisting of digits 2, 3, 5 or 7 and you are asked to calculate the minimum number of primes that when assembled together give N.

To simplify the problem, we will only consider the primes smaller than 10^6.

Input

The input file consists of a single number N consisting of at most 1000 digit.

Output

Output one line containing one single integer: the answer to this problem.

Scoring

In 40% of the cases, N is smaller than 10^6

Examples

standard input	standard output
2	1
222223	4