

R Numbers

R - Numbers

R-numbers are numbers which have the property that they do not have the digit '0' and sum of every two adjacent digits of the number is prime. 123 is a R-number because $1+2=3$ and $2+3=5$ and 3, 5 are primes.

How many R-numbers can be formed with at most length N?

i.e. R-numbers of length 1 + R-numbers of length 2 + R-numbers of length 3 + ... R-numbers of length N.

Length of a number = Number of digits in the number.

Only four single digit numbers are R-numbers which are nothing but single digit primes 2, 3, 5, 7.

Input Specification

The first line of the input file contains T which denotes the number of test cases. The next T lines contain an integer $N \leq 10^9$.

Output Specification

Print the numbers of R-numbers modulo 1000000007. [10^9+7];

Example

Sample Input:

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2
1
2
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Sample Output:

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4
33
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