

## Problem J

### Magic Lamp 1

Time Limit: 1 second

You are lucky to find a magic lamp in the Cave of Numbers. The Genie of the lamp will help you fulfill three wishes if you can answer his questions.



**Here is the first question of the Genie for the first wish.**

Given an array  $A$  with  $n$  elements:  $a_1, a_2, \dots, a_n$ . Consider all  $n!$  permutations of  $A$ . With each permutation, we concat all numbers to get a single number.

For example, with  $A = [1, 20, 3]$ , we will get the following  $3! = 6$  numbers: 1203, 1320, 2013, 2031, 3120, 3201.

Amongst these  $n!$  numbers, count how many numbers are divisible by 11.

#### Input

The first line contains a single integer  $n$  ( $1 \leq n \leq 10^5$ )

The second line contains  $n$  numbers, separated by a single space, representing the array  $A$ .

#### Output

Contains a single integer - the number of numbers divisible by 11, modulo 998244353

#### Sample Input

```
3
1 20 3
```

#### Sample Output

```
3
```

**Explanation for the sample:** There are 3 numbers divisible by 11: 1320, 2013, 3201.