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, …, 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 ($1 \le n \le 10^5$)

The second line contains n numbers, separated by a single space, representing the array A ($1 \le a_i \le 10^9$ for $1 \le i \le n$)

Output

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

Sample Input	Sample Output
3 1 20 3	3

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