

## Problem H. Help Me to Get This Published

Input file:            **standard input**  
Output file:         **standard output**  
Time limit:          1 second  
Memory limit:       256 megabytes

A **Gallai coloring** of a complete graph on  $n$  nodes is a coloring of its edges, in which the following condition holds:

- There is no triangle whose edges are colored in 3 distinct colors.

The color degree  $d(v)$  of node  $v$  is defined as the number of different colors that appear on the edges incident to  $v$ . Let's call sequence  $(a_1, a_2, \dots, a_n)$  a **valid degree sequence** if there exists some Gallai coloring of a complete graph on  $n$  nodes, in which  $d(i) = a_i$  for all  $1 \leq i \leq n$ .

You are given some values of  $a_i$ , and some are equal to  $-1$ . Find the number of ways to replace elements of  $a$ , equal to  $-1$ , to obtain a valid degree sequence. As this number may be large, output it modulo 998244353.

### Input

The first line of the input contains a single integer  $n$  ( $2 \leq n \leq 100$ ).

The second line of the input contains  $n$  integers  $a_1, a_2, \dots, a_n$  ( $1 \leq a_i \leq n-1$ , or  $a_i = -1$ ). If  $a_i \neq -1$ , its value is given.

### Output

Output a single integer — the number of ways to replace elements of  $a$ , equal to  $-1$ , to obtain a valid degree sequence, modulo 998244353.

### Examples

standard input	standard output
2 1 -1	1
3 -1 -1 -1	4
6 5 -1 -1 -1 -1 -1	120

### Note

In the first sample, the only valid degree sequence is  $(1, 1)$ .

In the second sample, the only valid degree sequences are  $(1, 1, 1)$ ,  $(1, 2, 2)$ ,  $(2, 1, 2)$ ,  $(2, 2, 1)$ , where the first one corresponds to the case, when all edges have the same color, and the next three correspond to the cases, when some two edges have the same color.