3 Elements Sort

Problem Code	hw07b_sort
Running Time Limit	1 sec
Memory Limit	16 mb

Objective

- Be able to solve a problem by greedy approach.

Introduction

Given an array of N elements such that the each element is either 1,2 or 3. Your task is to sort this array. The sort can be done by an operation called swap. Each swap switches elements in two positions. For example, `swap(1,10)` exchange element in the position 1 with the element in the position 10. Your task is to sort this array using smallest number of swap.

Task

Your task is to compute the minimal number of swap required to sort the given array.

Input

The first line of input contains N, the number of element in the array $(1 \leq N \leq 10{,}000)$. The next line contains N integers of either 1,2 or 3 that represent the array.

Output

The output is a single line containing the minimal number of swap required to sort the array.

Example

Ex1

Input	**Output**
7 2 2 1 3 2 1 3	3