Baltic OI '08 P4 - Elections

Time limit: 1.0s **Memory limit:** 32M

Baltic Olympiad in Informatics: 2008 Day 2, Problem 1

The citizens of Byteland have recently been voting in the parliamentary elections. Now, when the results have been published, the parties have to decide on a coalition to form the government.

Each party received a certain number of seats in the parliament. The coalition must be a subset of the parties such that together they have strictly more than half of all the seats in the parliament. It is desirable for the coalition to have as many seats as possible, to ensure they can still pass their proposed laws even if a few of their members are absent from a parliament session.

A coalition is called redundant if one of its parties can be removed with the remaining ones still having more than half of the seats in the parliament. Of course, such a removable party would effectively have no power — the other members of the coalition would be able to force the laws regardless of its opinion.

Write a program that finds a non-redundant coalition that has the maximal possible number of seats in the parliament.

Constraints

$1 \leq n \leq 300$

$0 < \sum_{i=1}^{n} a_i \leq 10^5$

a_i is guaranteed to be non-negative for all i.

Subtask 1 [40%]

$1 \leq n \leq 20$

Subtask 2 [60%]

No additional constraints.

Input Specification

The first line of the standard input contains one integer n — the number of parties that participated in the elections. The parties are numbered from 1 to n. The second line contains n non-negative, space-separated integers $a_1 \ldots a_n$, where a_i is the number of seats received by the ith party.

Output Specification

The first line of output should contain one integer k — the number of parties in a non-redundant coalition which has the maximal number of seats.

The second line should contain k distinct, space-separated integers — the numbers of parties that form the coalition.

If there are several non-redundant coalitions with the maximal number of seats, you may output any of them. The member parties can be listed in any order.

Sample Input

```
4
1 3 2 4
```

Sample Output

```
2
2 4
```