Wimpy's diet (`diet`)

Wimpy is always hungry, but his doctor put him on a diet: he's only allowed to eat sandwiches in a strictly decreasing order of weight at any given meal.

His favorite restaurant, however, only serves sandwiches in a fixed order, so Wimpy has to decide which ones to pick.

You are to help him: write a program that removes sandwiches from a menu of N sandwiches so that the remaining sandwiches have the maximum possible total weight and are served in a strictly decreasing order of weight.

Example:

Given a menu of 8 sandwiches:

389 207 155 300 299 170 158 65

We can remove the sanwiches 207 and 155 to obtain a decreasing sequence:

389 300 299 170 158 65

Of maximum total weight 1381.

Implementation

You should submit a single file, with either a `.c`, `.cpp`, `.java` or `.py` extension.

Your program must read input data from `stdin` and write the output data into `stdout`.

`stdin` consists of only one line:

- Line 1: The integer N, the number of sandwiches on a menu.

- Line 2: N integers space separated, the weight of the sanwiches.

`stdout` consists of only two lines:

- Line 1: The number of sanwiches in the solution.

- Line 2: The weights of the remaining sandwiches of the menu.

Constraints

- $1 \leq N \leq 10.000$.

- $1 \leq W[i] \leq 10.000$ for all $0 \leq i < N$.

- No two sandwiches have the same weight.

Scoring

Your program will be tested on a number of testcases grouped in subtasks. In order to obtain the score associated to a subtask, you need to correctly solve all testcases of which it is formed.

- **Subtask 1**   [**40 points**]: $N \leq 1.000$.
- **Subtask 2**   [**60 points**]: $N \leq 10.000$.

Examples

stdin	stdout
8 389 207 155 300 299 170 158 65	6 389 300 299 170 158 65
4 16 93 107 224	1 224