B. Sereja and Stairs

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Sereja loves integer sequences very much. He especially likes stairs.

Sequence $a_1, a_2, ..., a_{|a|}$ ($|a|$ is the length of the sequence) is stairs if there is such index i ($1 \le i \le |a|$), that the following condition is met:

$$a_1 < a_2 < ... < a_{i-1} < a_i > a_{i+1} > ... > a_{|a|-1} > a_{|a|}.$$

For example, sequences [1, 2, 3, 2] and [4, 2] are stairs and sequence [3, 1, 2] isn't.

Sereja has m cards with numbers. He wants to put some cards on the table in a row to get a stair sequence. What maximum number of cards can he put on the table?

Input

The first line contains integer m ($1 \le m \le 10^5$) — the number of Sereja's cards. The second line contains m integers b_i ($1 \le b_i \le 5000$) — the numbers on the Sereja's cards.

Output

In the first line print the number of cards you can put on the table. In the second line print the resulting stairs.

Examples

input
5 1 2 3 4 5
output
5 5 4 3 2 1

input
6 1 1 2 2 3 3
output
5 1 2 3 2 1

Codeforces Round #223 (Div. 2)
Finished

→ Virtual participation

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Start virtual contest

→ Problem tags

greedy implementation sortings

No tag edit access

→ Contest materials

- Announcement
- Tutorial