

Frequency of Numbers (2)

Given a list of integers, output the list of distinct values and the corresponding number of their occurrences. Output list must be ordered by the occurrences in descending, and value in ascending.

Input

- The first line contains one integer N - the number of integers ($1 \leq N \leq 10^5$).
- The next line contains N integers which do not exceed 10^9 .

Output

Each line contains a value and the number of occurrences of the value.

Sample

Input	Output
8	1 2
0 4 3 1 5 6 1 3	3 2
	0 1
	4 1
	5 1
	6 1