NOIP '07 P1 - Counting Numbers

Time limit: 1.0s **Memory limit:** 128M

A scientific survey obtained n natural numbers, each one at most $1\,500\,000\,000$ (1.5×10^9).

We know that there are at most $10\,000$ distinct numbers.

We want to count how many times each number appear, and output them in increasing order of the numbers.

Input Specification

Line 1 contains n, the number of numbers, denoting the total number of numbers.

Lines 2 to $n + 1$ contain a number per line, denoting each number.

Output Specification

Output m lines (m being the number of distinct numbers). Each contain two numbers, the value and the frequency.

Sample Input

```
8
2
4
2
4
5
100
2
100
```

Sample Output

```
2 3
4 2
5 1
100 2
```

Constraints

All data satisfy $1 \leq n \leq 200\,000$, each number is at most $1\,500\,000\,000$ (1.5×10^9).

40% of the data satisfy $1 \leq n \leq 10\,000$.

80% of the data satisfy $1 \leq n \leq 50\,000$.