Write a program that will remove all duplicates from a sequence of integers and print the list of unique integers occuring in the input sequence, along with the number of occurences of each.

Input

The input file will contain a sequence of integers n ($-2^{31} < n < 2^{31}$) and length < 1000.

Output

The output for this program will be a sequence of ordered pairs, separated by newlines. The first element of the pair must be an integer from the input file. The second element must be the number of times that that particular integer appeared in the input file. The elements in each pair are to be separated by space characters. The integers are to appear in the order in which they were contained in the input file.

Sample Input

```
3 1 2 2 1 3 5 3 3 2
```

Sample Output

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