

More than 500 grams

A store registers all the purchases of tea. They log the brand and amount of tea that was bought.

Write a program that lists the brands of those purchases when more than 500 grams of tea was bought.

Input

The first line of the *standard input* contains the count of purchases ($1 \leq N \leq 100$). The next $2 \cdot N$ lines each contain the brand and the amount ($1 \leq A \leq 20000$) of tea of a purchase.

Output

The first line of the *standard output* should contain the count, and then the brand names of those tea brands from which the customers bought more than 500 grams of tea at a single purchase. The brands should be in the order of the input and can be repeated. Items should be separated by a space.

Example

Input

```
6
Lipton
200
Teekanne
100
Lipton
600
Lipton
800
Pickwick
200
Greenfield
800
```

Output

```
3 Lipton Lipton Greenfield
```

Limits

Time limit: 0.1 second

Memory limit: 32 MB