Competition awards

At a competition, all participants get 1st place if they reach 90% of the total points; 2nd place if they reach 80% of the total points (but less than 90%); and 3rd place if they reach 70% of the total points (but less than 80%). The results of the participants are listed in alphabetical order.

Write a program that creates the lists of awarded participants (grouped by category), and not awarded participants.

Input

The first line of the *standard input* contains the count of participants (1≤N≤100) and the total points (1≤P≤100). The next N lines each contain a name and the achieved points (1≤P$_i$≤100) which are separated by a semicolon.

Output

Each line of the *standard output* should contain the count of participants of the given award, and the participants who were awarded. The items should be separated by a semicolon. The first item in each line should be the count. The order of lines: I, II, III, not awarded

Example

Input

```
6 100
Angyal Pofa;90
Bozontos Beata;73
Cukor Falat;85
Dohongo Diana;78
Eros Pista;83
Fickos Ferenc;64
```

Output

```
1;Angyal Pofa
2;Cukor Falat;Eros Pista
2;Bozontos Beata;Dohongo Diana
1;Fickos Ferenc
```

Limits

Time limit: 0.1 second

Memory limit: 32 MB

Evaluation: In 40% of tests, the count of data is ≤20