

- The third line contains P integers, separated by single space, that describe the values for the P problems given in ascending order of problem numbers. Problems are numbered 1 to P , and their values will be less than or equal to 100.
- Each of the following R lines describes the data about one submission, which consists of four (4) integers separated by a single space. The four integers describe team number, problem number, time of submission in milliseconds from start of the five (5) hours contest, and the judge's decision (zero for accepted, and non-zero for rejected).

The input will be terminated by a line that consists of three zeros (0 0 0), separated by a single space. This line should not be processed.

Output

For each contest, the output is one line that contains the contest label and numbers of the winning team numbers (sorted in increasing order) as shown in the Sample Output below.

Sample Input

```
1 5 6
6
3 3 10 30 100
6 1 3602455567 0
3 2 6589562919 4
3 2 9076562919 0
6 4 1120132409 0
3 2 7189562919 3
17 3 9902455567 0
2 5 6
120
3 10 10 30 100
6 1 3602455567 0
6 2 6589562919 5
5 2 9076562919 0
17 4 1120132409 0
3 4 7189562919 0
3 3 9902455567 0
0 0 0
```

Sample Output

```
Contest 1 Winner: Team 17
Contest 2 Winner: Team 5 and Team 17
```