

1 Problem statement

You have been asked to organize a number of workshops for a number of interested people. In order to accommodate the workshops r rooms have been rented. Each workshop starts at 14:00, and each room is rented for period of time starting at 14:00. You are provided with a list of all workshops containing their respective durations and numbers of participants, and with a list of rented rooms, listing number of seats available in each of the rooms, as well as time each of the rooms must be cleared. Each workshop that cannot be accommodated in one of the rooms will have to be held in the open air. Every room can accommodate at most one workshop. Workshops cannot be split among several rooms. Your task is to find a way of assigning workshops to rooms such that the number of workshops held in the open air is the lowest possible. If there are multiple solutions satisfying this condition, find solution which minimises the number of people attending open-air workshops.

2 Input

One test contains descriptions of several (at most 10) instances of this problem. Each instance starts with a line containing the number of workshops $0 < w \leq 1000$. Each of the next w lines contains description of one workshop, and consists of two integers. The first number is the number of participants of the workshop $0 < p \leq 100$, and the duration of the workshop in minutes $0 < d \leq 300$. After that, the next line contains a single integer $0 < r \leq 1000$ - the number of rented rooms. The following r lines describe one room each, and each contains an integer $0 < s \leq 100$ - the number of seats in this room, and the time when the room must be cleared, using the format $hh : mm$ - in 24-hour clock. The input is terminated by a single line containing the number zero.

3 Output

The output should consist of a single line for each instance of the problem, containing the number of the instance, the number of open-air workshops, and the number of people attending them, formatted like in the example.

4 Sample input

```
1
20 60
1
30 16:00
2
20 60
50 30
1
30 14:50
0
```

5 Output for the sample input

```
Trial 1: 00

Trial 2: 2 70
```