The Platform

The government is planning to create a new station Crio Junction near Bangalore, your team has already set up the routing for all the trains through this station. Now your job is to find the minimum number of platforms that this station should have so that the routing, that is defined by your team, is possible. You are given the train name, train number, time of arrival(TOA) , time of departure(TOD) and time taken to depart(TTTD) for all the trains. There are N trains. You have to find the minimum number of platforms that need to be built and for each train assign a platform to it.

Note

- Platforms are numbered from 1 to K, where K is the minimum number of platforms required.

- At any time a platform cannot have more than 1 train assigned to it.

- You can assume that the platform will be available after the train has completely departed.

- Your are given the time of arrival, departure and time taken to depart in the format HH:MM:SS in 24 hours format i.e. starting from 00:00:00 to 23:59:59

Input Format

First line contains the number of test cases.

First line contains the number of trains, each of the next N lines contains Name of train , Train number , Time of arrival, time of departure and time taken to depart.

Constraints

- $1 \leq T \leq 10$

- $1 \leq N \leq 10^5$

- $1 \leq |TrainName| \leq 20$

- $1 \leq TrainNumber \leq 10^9$

Output Format

The first line of the output must contain the minimum number of platforms(K) required. Next N lines should each contain - Train name, Train number and Platform number assigned to that train. $1 \leq Plaformnumber \leq K$

Sample Input 0

```
2
3
Rajdhani 12001 10:40:00 10:55:00 00:05:00
Shatabdi 12002 09:20:10 12:00:00 00:06:30
JanShatabdi 12003 11:00:00 12:00:00 00:05:00
3
Rajdhani 12001 10:40:00 10:55:00 00:05:00
Shatabdi 12002 12:05:30 13:00:00 00:06:30
JanShatabdi 12003 11:00:00 12:00:00 00:05:30
```

Sample Output 0

```
2
Rajdhani 12001 2
Shatabdi 12002 1
JanShatabdi 12003 2
1
Rajdhani 12001 1
Shatabdi 12002 1
JanShatabdi 12003 1
```

Explanation 0

In the first example first Shatabdi will reach the station at 09:20:10 on platform 1 and leave that platform at 12:00:00 (The platform will be free at 12:06:30). From 10:40:00 to 11:00:00 Rajdhani will be on platform 2 and from 11:00:00 to 12:05:00 Janshatabdi will be on platform 2.