Customs

Description

Victoria Harbour in Hong Kong has many busy ports and piers for all kinds of usage. For example, Kai Tak Cruise Terminal always welcomes large cruises with people from around the world.

As a customs officer working in Kai Tak Cruise Terminal, Kyaru needs to record the information of all the cruises arrived and the passengers they carry. Specifically, for the i-th arrived cruise, she records t_i as the time it arrived, k_i as the number of passengers on board, and $x_{i,j}(1 \leq j \leq k_i)$ as the nationality of each passengers.

One day, she was asked that for each of the cruises, she needs to count the number of different nationalities of all the passengers passing the customs within 24 hours(86400 seconds) before its arrival (include passengers on itself) (the time gap between one's cruise arriving at the terminal and him passing the customs is ignored). Since there're too many records on her hand, she turned to you for help.

Formally, you need to check n records. For the i-th record, you should count the number of different numbers appeared among all $x_{p,j}$ fulfilling $t_i - 86400 < t_p \leq t_i$ and $1 \leq j \leq k_i$.

Input

The first line of the input contains a positive integer n , indicating the number of the records.

The i-th line of the following n line contains the record of the i-th ship. A record starts with two integers t_i and k_i mentioned above, followed by k_i integer, the j-th of which represents $x_{i,j}$ (basically the nationality of j-th passenger on the i-th cruise).

It is guaranteed that t_i is given in seconds in increasing order representing that the i-th cruise arrives at the terminal in t_i seconds since Kyaru started to work.

Output

n lines, an integer on each line, indicating the data required for each of the arrivals of cruises.

Sample Input/Output

Input 1

```
3
1 4 4 1 2 2
2 2 2 3
10 1 3
```

Output 1

```
3
4
4
```

Input 2

```
4
1 4 1 2 2 3
3 2 2 3
86401 2 3 4
86402 1 5
```

Output 2

```
3
3
3
4
```

Constraint

$1 \le n \le 10^5$, $\displaystyle\sum_{i=1}^{n} k_i \le 3 \cdot 10^5$, $1 \le x_{i,j} \le 10^5$.

$1 \le t_1 \le t_2 \le \cdots \le t_{n-1} \le t_n \le 10^9$.