Harbor

Problem Description

K is a customs officer at a harbor. Many ships arrive at the harbor every day, and there are usually many passengers from different countries on board.

K is very interested in the ships that arrived at the harbor. He records the situation of each ship that arrived at the harbor according to the time: For the i^{th} arriving ship, he records the arrival time of the ship ti (in seconds), the number of passengers on board ki, and the nationality of each passenger $x_{i,1}$, $x_{i,2}$,..., $x_{i,\,k}$.

K counts n ships and wants your help in figuring out how many different countries all the passengers who arrived by ship in the 24 hours up to each ship's arrival time (24 hours = 86,400 seconds) came from.

Formally, you need to compute n pieces of information. For the i^{th} message in the output, you need to count how many different numbers in $x_{p,j}$ when ship p satisfies $ti-86400<tp\le ti$.

Input

The first line contains a positive integer n, indicating that K records the information of n ships.

Next n lines each describe the information of a ship: the first two integers ti and ki respectively represent the time of arrival of the ship at the harbor and the number of passengers on board, followed by ki integers $x_{i,j}$ representing the nationalities of the passengers on board.

It is ensured that ti is incremented, and the unit is second; representing that the clock starts from the time that K goes to work, and the ship arrives at the harbor at ti.

Ensure that $1\le n\le 105$, $\sum ki\le 3*10^5$, $1\le x(i,j)\le 10^5$, $1\le t(i-1)\le ti\le 10^{9.}$

$\sum ki$ represents the sum of all ki.

Output

There are n lines, and the i^{th} line contains an integer indicating the statistics after the i^{th} ship arrives.

Sample Input 1

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3
1 4 4 1 2 2
2 2 2 3
10 1 3
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Sample Output 1

```
3
4
4
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Hint

Sample Input 2

4
1 4 1 2 2 3
3 2 2 3
86401 2 3 4
86402 1

Sample Output 2
3
3
3
4

[Explanation of Sample 1]
The first ship arrives at the port in the first second, and the ship that arrived in the last 24 hours is the first ship with a total of 4 passengers from countries 4,1,2,2, with a total of 3 different countries;
The second ship arrives at the port in the second second, and the ships arriving in the last 24 hours are the first ship and the second ship, with a total of 4+2=6 passengers from countries 4,1,2,2,3 respectively, with a total of 4 different countries;
The third ship arrives at the harbor in the 10^{th} second, and the ships arriving in the last 24 hours are the first ship, the second ship, and the third ship, with a total of 4+2+1=7 passengers from countries 4,1,2,2, 3,3, with a total of 4 different countries.

[Explanation of Sample 2]
The first ship arrives at the port in the first second, and the ship that arrived in the last 24 hours is the first ship with a total of 4 passengers from countries 1,2,2,3, with a total of 3 different countries;
The second ship arrives at the port in the third second, and the ships arriving in the last 24 hours are the first ship and the second ship, with a total of 4+2=6 passengers from countries 1,2,2,3,2,3 respectively, with a total of 3 different countries;
The third ship arrives at the harbor in the 86401^{st} second, and the ships arriving in the last 24 hours are the second ship and the third ship, with a total of 2+2=4 passengers from countries 2,3,3,4 with a total of 3 different countries;
The fourth ship arrives at the harbor in the 86402^{nd} second, and the ships arriving in the last 24 hours are the second ship, the third ship, and the fourth ship, with a total of 2+2+1=5 passengers from countries 2,3,3,4,5 with a total of 4 different countries.

[Constraints]
For 10% test points, $n = 1$, $\sum ki \le 10$, $1 \le x_{i,j} \le 10$, $1 \le ti \le 10$;
For 20% test points, $1 \le n \le 10$, $\sum ki \le 100$, $1 \le x_{i,j} \le 100$, $1 \le ti \le 32767$;
For 40% test points, $1 \le n \le 100$, $\sum ki \le 100$, $1 \le x_{i,j} \le 100$, $1 \le ti \le 86400$;
For 70% test points, $1 \le n \le 1000$, $\sum ki \le 3000$, $1 \le x_{i,j} \le 1000$, $1 \le ti \le 10^9$;
For 100% test points, $1 \le n \le 10^5$, $\sum ki \le 3 \times 10^5$, $1 \le x_{i,j} \le 10^5$, $1 \le ti \le 10^9$.