Problem M. MEETING
Time Limit: 3 seconds

Problem Description

Bessie and her friend Elsie decide to have a meeting. However, after Farmer John decorated his fences they were separated into different blocks. John's farm are divided into n blocks labelled from 1 to n. Bessie lives in the first block while Elsie lives in the n-th one. They have a map of the farm which shows that it takes they t_i minutes to travel from a block in E_i to another block in E_i where E_i $(1 \leq i \leq m)$ is a set of blocks. They want to know how soon they can meet each other and which block should be chosen to have the meeting.

Input

The first line contains an integer T $(1 \leq T \leq 6)$, the number of test cases. Then T test cases follow.

The first line of input contains n and m. $2 \leq n \leq 10^5$. The following m lines describe the sets E_i $(1 \leq i \leq m)$. Each line will contain two integers $t_i (1 \leq t_i \leq 10^9)$ and S_i $(S_i > 0)$ firstly. Then S_i integer follows which are the labels of blocks in E_i. It is guaranteed that $\sum_{i=1}^{m} S_i \leq 10^6$.

Output

For each test case, if they cannot have the meeting, then output "Evil John" (without quotes) in one line.

Otherwise, output two lines. The first line contains an integer, the time it takes for they to meet. The second line contains the numbers of blocks where they meet. If there are multiple optional blocks, output all of them in ascending order.

Sample Input

```
2
5 4
1 3 1 2 3
2 2 3 4
```

```
10 2 1 5
3 3 3 4 5
3 1
1 2 1 2
```

Sample Output

```
Case #1: 3
3 4
Case #2: Evil John
```

Hint

In the first case, it will take Bessie 1 minute travelling to the 3rd block, and it will take Elsie 3 minutes travelling to the 3rd block. It will take Bessie 3 minutes travelling to the 4th block, and it will take Elsie 3 minutes travelling to the 4th block. In the second case, it is impossible for them to meet.