

微软2016校园招聘在线笔试

已经报名

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报名人数: 3025

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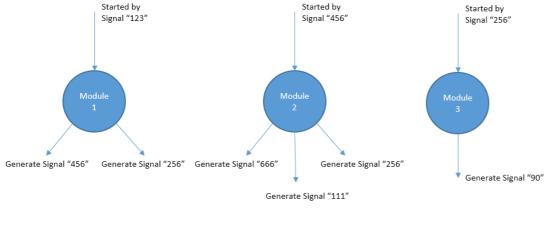
题目2: Professor Q's Software

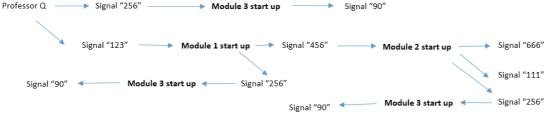
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时间限制: 10000ms 单点时限: 1000ms 内存限制: 256MB

描述

Professor Q develops a new software. The software consists of N modules which are numbered from 1 to N. The i-th module will be started up by signal S_i . If signal S_i is generated multiple times, the i-th module will also be started multiple times. Two different modules may be started up by the same signal. During its lifecircle, the i-th module will generate K_i signals: E_1 , E_2 , ..., E_{K_i} . These signals may start up other modules and so on. Fortunately the software is so carefully designed that **there is no loop in the starting chain of modules**, which means eventually all the modules will be stoped. Professor Q generates some initial signals and want to know how many times each module is started.





In the end, Module 1 starts up for 1 times, Module 2 starts up for 1 times, Module 3 starts up for 3 times,

输入

The first line contains an integer T, the number of test cases. T test cases follows.

For each test case, the first line contains two numbers N and M, indicating the number of modules and number of signals that Professor Q generates initially.

The second line contains M integers, indicating the signals that Professor Q generates initially.

Line $3\sim N+2$, each line describes an module, following the format S, K, E₁, E₂, ..., E_K. S represents the signal that start up this module. K represents the total amount of signals that are generated during the lifecircle of this module. And E₁ ... E_K are these signals.

For 20% data, all N, M <= 10

For 40% data, all N, M \leq 10³

For 100% data, all 1 <= T <= 5, N, M <= 10^5 , 0 <= K <= 3, 0 <= S, E <= 10^5 .

Hint: HUGE input in this problem. Fast IO such as scanf and BufferedReader are recommended.

For each test case, output a line with N numbers Ans_1 , Ans_2 , ..., Ans_N . Ans_i is the number of times that the i-th module is started. In case the answers may be too large, output the answers modulo 142857 (the remainder of division by 142857).

样例输入

```
3
3 2
123 256
123 2 456 256
456 3 666 111 256
256 1 90
3 1
100
100 2 200 200
200 1 300
200 0
5 1
1
1 2 2 3
2 2 3 4
3 2 4 5
4 2 5 6
5 2 6 7
```

样例输出

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

Emacs Normal Vim

提交

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