

[HOME](#) [CONTESTS](#) [GYM](#) [PROBLEMSET](#) [GROUPS](#) [RATING](#) [API](#) [AIM TECH ROUND](#)  [VK CUP](#)  [SECTIONS](#)
[PROBLEMS](#) [SUBMIT CODE](#) [MY SUBMISSIONS](#) [STATUS](#) [HACKS](#) [ROOM](#) [STANDINGS](#) [CUSTOM INVOCATION](#)

D. Shop

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Vasya plays one very well-known and extremely popular MMORPG game. His game character has k skill; currently the i -th of them equals to a_i . Also this game has a common rating table in which the participants are ranked according to the **product** of all the skills of a hero in the descending order.

Vasya decided to 'upgrade' his character via the game store. This store offers n possible ways to improve the hero's skills; Each of these ways belongs to one of three types:

1. assign the i -th skill to b ;
2. add b to the i -th skill;
3. multiply the i -th skill by b .

Unfortunately, a) every improvement can only be used once; b) the money on Vasya's card is enough only to purchase not more than m of the n improvements. Help Vasya to reach the highest ranking in the game. To do this tell Vasya which of improvements he has to purchase and in what order he should use them to make his rating become as high as possible. If there are several ways to achieve it, print any of them.

Input

The first line contains three numbers — k, n, m ($1 \leq k \leq 10^5, 0 \leq m \leq n \leq 10^5$) — the number of skills, the number of improvements on sale and the number of them Vasya can afford.

The second line contains k space-separated numbers a_i ($1 \leq a_i \leq 10^6$), the initial values of skills.

Next n lines contain 3 space-separated numbers t_j, i_j, b_j ($1 \leq t_j \leq 3, 1 \leq i_j \leq k, 1 \leq b_j \leq 10^6$) — the type of the j -th improvement (1 for assigning, 2 for adding, 3 for multiplying), the skill to which it can be applied and the value of b for this improvement.

Output

The first line should contain a number l ($0 \leq l \leq m$) — the number of improvements you should use.

The second line should contain l distinct space-separated numbers v_i ($1 \leq v_i \leq n$) — the indices of improvements in the order in which they should be applied. The improvements are numbered starting from 1, in the order in which they appear in the input.

Examples

input
2 4 3
13 20
1 1 14
1 2 30
2 1 6
3 2 2
output
3
2 3 4

Codeforces Round #295 (Div. 1)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Submit?

Language: GNU G++ 5.1.0

Choose file: 选择文件 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.



[Submit](#)

→ Problem tags

greedy

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 

The only programming contests Web 2.0 platform
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Desktop version, switch to [mobile version](#).