7264   Kejin Game

Nowadays a lot of Kejin games (the games which are free to get and play, but some items or characters are unavailable unless you pay for it) appeared. For example, Love Live, Kankore, Puzzle & Dragon, Touken Ranbu and Kakusansei Million Arthur (names are not listed in particular order) are very typical among them. Their unbelievably tremendous popularity has become a hot topic, and makes considerable profit every day.

You are now playing another Kejin game. In this game, your character has a skill graph which decides how can you gain skills. Particularly speaking, skill graph is an oriented graph, vertices represent skills, and arcs show their relationship — if an arc from A to B exists in the graph (i.e. B has a dependency on A), you need to get skill A before you are ready to gain skill B. If a skill S has more than one dependencies, they all need to be got firstly in order to gain S. Note that there is no cycles in the skill graph, and no two same arcs.

Getting a skill takes time and energy, especially for those advanced skills appear very deep in the skill graph. However, as an RMB player, you know that in the game world money could distort even basic principles. For each arc in skill graph, you can "Ke" (which means to pay) some money to erase it. Further, for each skill, you could even "Ke" a sum of money to gain it directly in defiance of any dependencies!

As you have neither so much leisure time to get skills nor sufficient money, you decide to balance them. All costs, including time, energy or money, can be counted in the unit "TA". You calculate costs for all moves (gaining a skill in normal way, erasing an arc and gaining a skill directly). Note that all costs are non-negative integers. Then, you want to know the minimum cost to gain a particular skill S if you haven't get any skills initially. Solve this problem to make your game life more joyful and . . . economical.

Input

The input consists of no more than 10 test cases, and it starts with a single integer indicating the number of them.

The first line of each test case contains 3 positive integers N ($1 \le N \le 500$), M ($1 \le M \le 10000$) and S, representing the number of vertices and arcs in the skill graph, and the index of the skill you'd like to get. Vertices are indexed from 1 to N, each representing a skill. Then M lines follow, and each line consists of 3 integers A, B and C, indicating that there is an arc from skill A to skill B, and C ($1 \le C \le 1000000$) TAs are needed to erase this arc.

The next line contains N integers representing the cost to get N skills in normal way. That means, the i-th integer representing the cost to get the i-th skill after all its dependencies are handled. The last line also contains N integers representing the cost to get N skills directly by "Ke". These $2N$ integers are no more than 1000000.

Output

For each test case, output your answer, the minimum total cost to gain skill S, in a single line.

Sample Input

```
2
555
125
```

```
135
248
4 5 10
3 5 15
3 5 7 9 11
100 100 100 200 200
555
125
135
248
4 5 10
3 5 15
3 5 7 9 11
5 5 5 50 50
```

Sample Output

```
31
26
```