Back to School '17: New English

Summer is an employee of a certain company which tries to create viral trends. The company's latest scheme is to create a single word which will then be adopted by the "youth" and become a meme. Summer is put in charge of this project, and she decides the word should have exactly N **lowercase** letters.

Excited by the possibility of a new internet sensation, M of Summer's friends each make one suggestion as to what the word should contain. Specifically, each friend wants a **lowercase** letter c to appear **exactly** x times within the first i letters of the word (inclusive).

Since Summer doesn't want to disappoint any of her friends, she asks you to help her create the next big thing!

Input Specification

The first line will contain two space separated integers N and M, which represent the length of the word Summer is to make, and the number of friends she has respectively.

The next M lines will each contain a suggestion by one of her friends in the form `c x i`.

Constraints

Subtask 1 [30%]

$1 \leq N, M \leq 10^3$

Subtask 2 [70%]

$1 \leq N, M \leq 10^5$

For all subtasks, $1 \leq i \leq N$, and $0 \leq x \leq N$.

In addition, c will always be a lowercase letter of the alphabet.

Output Specification

The output should be one line, consisting of a string which satisfies **all** M suggestions of her friends. If there are multiple solutions, output any of them. If there are no solutions, output `-1`.

Sample Input 1

```
7 4
a 2 2
c 2 7
b 3 7
c 1 5
```

Sample Output 1

```
aacbbbc
```

Explanation of Sample Input 1

The word must have its first two letters be `a` to fulfill the first suggestion. The second suggestion is fulfilled by having `c` appear at indices 3 and 7. The third suggestion is fulfilled, with `b` appearing at the 4^{th}, 5^{th} and 6^{th} indices. Finally, the last suggestion is fulfilled, as the letter `c` only appears once in the first 5 indices.

Other possible solutions include `aacbbcb`, `aabcbbc`, etc.

Sample Input 2

```
4 2
x 2 3
y 2 3
```

Sample Output 2

```
-1
```

Explanation of Sample Input 2

It is impossible for characters `x` and `y` to each appear twice in the first three characters.