

13409 - Make sentence

Description

There are **N** students in the class, the teacher wants to play a game with them, the student who makes the longest sentence will win.
But there are rules for making sentences, in this game each operation is randomly drawn, the teacher will randomly select students who can make sentences, and randomly decide what you can do.

There are 5 types of operation:

- 1. add x s: Add the string **s** to the end of the sentence of student **x**
- 2. delete x k: Delete the last **k** characters word of student **x**'s sentence(do nothing if the sentence is empty)
- 3. swap x y: Swap sentences of student **x** and student **y**
- 4. longest: Output the length of the longest sentence and the sentence, if many students have same length, output the sentence of the student with smallest number.
- 5. all: Print all sentences from student **1** to **N**

Input

The first line contains two integer N, M, the number of student and the number of operation
The following M lines, each line contains one type of operation.

testcases:

(3/6) 0 < **x**, **y** < **N** <= 100, 0 < **M** <= 100, 0 < |**s**| <= 100
(3/6) 0 < **x**, **y** < **N** <= 100, 0 < **M** <= 10000, 0 < |**s**| <= 100

Note that: **s** is the string to be added during the add operation, the length of student's sentence may exceed 100.

Note: Please use malloc() and free() properly.

Output

See the description

Sample Input

Download (data:text/plain;charset=utf-8,Sample%20Input%201%3A%0D%0A2%207%0D%0Aadd%201%20abcd%0D%0Aadd%202%20bcda%0D%0Alongest%0D%0

```
Sample Input 1:
2 7
add 1 abcd
add 2 bcda
longest
all
swap 1 2
longest
all

Sample Input 2:
3 8
add 1 abcd
add 2 meow
add 3 bcda
all
delete 2 2
all
delete 2 5
all
```

Sample Output

Download (data:text/plain;charset=utf-8,Sample%20Output%201%3A%0D%0A4%20abcd%0D%0Aabcd%0D%0Abcda%0D%0A4%20bcda%0D%0Abcda%0D%0Aabc

```
Sample Output 1:
4 abcd
abcd
bcda
4 bcda
bcda
abcd

Sample Output 2:
abcd
meow
bcda
abcd
me
bcda
abcd

bcda
```

Discuss