6/21/25, 10:20 AM D - Conflict 2

> Contest Duration: 2025-06-21(Sat) 08:00 (http://www.timeanddate.com/worldclock/fixedtime.html? iso=20250621T2100&p1=248) - 2025-06-21(Sat) 09:40 (http://www.timeanddate.com/worldclock/fixedtime.html? iso=20250621T2240&p1=248) (local time) (100 minutes) Back to Home (/home)

Tasks (/contests/abc411/tasks) ↑ Top (/contests/abc411)

? Clarifications (/contests/abc411/clarifications)

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↓ Standings (/contests/abc411/standings)

↓ Virtual Standings (/contests/abc411/standings/virtual)

Custom Test (/contests/abc411/custom_test) Editorial (/contests/abc411/editorial)

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D - Conflict 2 Editorial (/contests/abc411/tasks/abc411_d/editorial)

/ ##

Time Limit: 2 sec / Memory Limit: 1024 MiB

Score: 425 points

Problem Statement

There is one server and N PCs. The server and each PC each hold one string, and initially all strings are empty.

 ${\it Q}$ queries are given. Each query is in one of the following formats:

- 1 p: Replace the string of PC p with the string of the server.
- 2 p s: Append string s to the end of the string of PC p.
- 3 p: Replace the string of the server with the string of PC p.

Find the final string of the server after processing all queries in the given order.

Constraints

- N, Q are integers
- $1 \le N, Q \le 2 \times 10^5$
- For every query, p is an integer and $1 \le p \le N$.
- \bullet For every query of type 2,s is a string of length at least 1 consisting of lowercase 2025-06-21 (Sat) English letters. 10:20:41 -04:00
- The sum of the lengths of s over all queries of type 2 is at most 10^6 .

6/21/25, 10:20 AM D - Conflict 2

Input

The input is given from Standard Input in the following format:

```
 \begin{array}{c} N \quad Q \\ \mathrm{query}_1 \\ \mathrm{query}_2 \\ \vdots \\ \mathrm{query}_Q \end{array}
```

Here, query i represents the i-th query and is given in one of the following formats:

```
1 p
2 p s
3 p
```

Output

Output the answer.

Sample Input 1 Copy

```
2 6
2 1 at
3 1
2 2 on
1 2
2 coder
3 2
```

Sample Output 1 Copy

```
atcoder
```

- Initially, the strings of the server and PCs 1, 2 are all empty.
- 1st query: Append at to the end of the string of PC 1. At this time, the strings of the server, PC 1, 2 are empty, at, empty, respectively.
- 2nd query: Replace the string of the server with the string of PC 1. At this time 6 the server, PC 1, 2 are at, at, empty, respectively. 10:20:41-04:00

6/21/25, 10:20 AM D - Conflict 2

> • 3rd query: Append on to the end of the string of PC 2. At this time, the strings of the server, PC 1, 2 are at, at, on, respectively.

- ullet 4th query: Replace the string of PC 2 with the string of the server. At this time, the strings of the server, PC 1, 2 are at, at, respectively.
- 5th query: Append coder to the end of the string of PC 2. At this time, the strings of the server, PC 1, 2 are at, at, atcoder, respectively.
- ullet 6th query: Replace the string of the server with the string of PC 2. At this time, the strings of the server, PC 1, 2 are atcoder, at, atcoder, respectively.

Thus, the final string of the server is atcoder.



ladxfzzkfmirurptilun

Copy

Сору

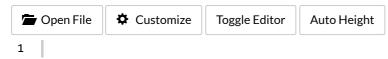
2025-06-21 (Sat) 10:20:41 -04:00

6/21/25, 10:20 AM D - Conflict 2

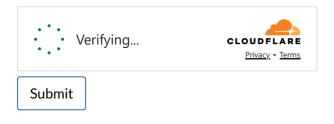
Language

Python (CPython 3.11.4)

Source Code



^{*} Your source code will be saved as Main. extension.



#telegram)

 $url = https\%3A\%2F\%2Fatcoder.jp\%2Fcontests\%2Fabc411\%2Ftasks\%2Fabc411_d\%3Flang\%3Den\&title = D\%20-beta fine the first of the contest of the co$

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2025-06-21 (Sat) 10:20:41-04:00

^{*} at most 512 KiB

6/21/25, 10:20 AM D - Conflict 2