CODEFORCES
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Ahmed_Essam_Yassin | Logout

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E. A Simple Task

time limit per test: 5 seconds

memory limit per test: 512 megabytes

This task is very simple. Given a string S of length n and q queries each query is on the format $i\ j\ k$ which means sort the substring consisting of the characters from i to j in non-decreasing order if $k = 1$ or in non-increasing order if $k = 0$.

Output the final string after applying the queries.

Input

The first line will contain two integers n, q ($1 \leq n \leq 10^5$, $0 \leq q \leq 50\,000$), the length of the string and the number of queries respectively.

Next line contains a string S itself. It contains only lowercase English letters.

Next q lines will contain three integers each i, j, k ($1 \leq i \leq j \leq n$, $k \in \{0, 1\}$).

Output

Output one line, the string S after applying the queries.

Examples

input	Copy

```
10 5
abacdabcda
7 10 0
5 8 1
1 4 0
3 6 0
7 10 1
```

output	Copy

```
cbcaaaabdd
```

input	Copy

```
10 1
agjucbvdfk
1 10 1
```

output	Copy

```
abcdfgjkuv
```

Note

First sample test explanation:

$abacda\mathbf{bcda} \rightarrow abacda\mathbf{dcba}$

$abac\mathbf{dadc}ba \rightarrow abac\mathbf{acdd}ba$

$\mathbf{abac}acddba \rightarrow \mathbf{cbaa}acddba$

$cbaa\mathbf{acdd}ba \rightarrow cb\mathbf{caaa}ddba$

$cbcaaa\mathbf{ddba} \rightarrow cbcaaa\mathbf{abdd}$

→ Last submissions

Submission	Time	Verdict
292879929	Nov/23/2024 13:55	Accepted
292873427	Nov/23/2024 12:54	Wrong answer on test 1
292873007	Nov/23/2024 12:50	Time limit exceeded on test 53
292872811	Nov/23/2024 12:49	Time limit exceeded on test 53
292872441	Nov/23/2024 12:45	Wrong answer on test 6
292872297	Nov/23/2024 12:44	Memory limit exceeded on test 6
292871866	Nov/23/2024 12:40	Wrong answer on test 6
292781362	Nov/22/2024 19:01	Accepted
292780516	Nov/22/2024 18:55	Accepted
292779795	Nov/22/2024 18:49	Accepted

→ Problem tags

data structures   sortings   strings

*2300

No tag edit access

→ Contest materials

- Announcement (en) ✕