String Functions

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Given two numbers N, Q and a string S of size N. Followed by Q lines of the following queries:

- **pop_back** : remove the last character in the string.
- **front** : print the first character in the string.
- **back** : print the last character in the string.
- **sort l r** : where $(1 \leq l, r \leq |S|)$ sort all characters of S from l to r.
- **reverse l r** : where $(1 \leq l, r \leq |S|)$ reverse all characters of S from l to r.
- **print pos** : where $(1 \leq pos \leq |S|)$ print the character in the index pos.
- **substr l r** : where $(1 \leq l, r \leq |S|)$ print sub-string of s from l to r.
- **push_back x** : add character x in the end of the string.

For each query, print the answer associated with it in a single line.

It's guaranteed that in the first 7 types of the query, the string is not empty.

it's recommended to use built-in functions of String.

Input

The first line contains two integers N, Q $(1 \leq N, Q \leq 10^3)$ N denoting the size of the string and Q number of queries.

The second line contains the string S consists of only **lowercase** English letters.

Next Q lines contain the queries.

Output

For each query, print the answer associated with it in a single line.

Example

standard input	standard output
18 8 assiutinupperegypt substr 1 6 sort 5 8 pop_back back reverse 1 6 front push_back i print 4	assiut p n s