
Segment Trees

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

You are given a number array of length N that starts with zeros, and Q queries of either update or range maximum query. Use segment trees to calculate this.

Input

First line contains N and Q Next Q lines are either:

- U i v
- Q a b

Output

For every line that starts with Q, output the maximum in the range $[a, b]$

Example

standard input	standard output
4 6	3
U 0 3	5
U 1 2	
U 2 5	
U 3 1	
Q 0 1	
Q 1 3	