Problem C
Find the House
Time Limit: 1 Second

Younghee is currently on a one-dimensional road and looking for her friend Jisun's house. To know the exact position of Jisun's house, Younghee sends a message to Jisun with her current position (assume that all the positions are represented as integers). A couple of minutes later, Younghee gets a reply as a list of n triples from Jisun with an additional explanation as follows:

- For each triple (i, j, k) in the list, i is an integer which denotes the current position, j denotes the direction to move from i, represented as L (left) or R (right), and k is a positive integer which denotes the distance to move from i.
- For any two triples (i, j, k) and (i', j', k') in the list, i and i' are distinct.
- If you are currently on the position i, there always exists a triple (i, j, k) in the list (unless all the triples in the list are referred before). In this case, refer to the triple (i, j, k) and move to $i - k$ (if $j = L$) or $i + k$ (if $j = R$).
- Each of the triples in the list is referred exactly once.
- The position after referring to all the triples in the list is a position of Jisun's house.

For example, suppose Younghee is currently at the position 0 with a list of four triples – $(3, R, 4)$, $(0, L, 2)$, $(7, L, 5)$, and $(-2, R, 5)$. Then Younghee first refers to the triple $(0, L, 2)$ and move to the position $0 - 2 = -2$. After that, Younghee refers to the triples $(-2, R, 5)$, $(3, R, 4)$, and $(7, L, 5)$ in order and moves to the position 2, which is the position of Jisun's house. Given n, Younghee's current position, and a list of n triples, write a program to find Jisun's house's position.

Input
Your program is to read from standard input. The input starts with a line containing an integer n ($1 \le n \le 10{,}000$), where n is the number of triples in the list. In the following n lines, n triples are given where each triple is represented as three values i, j, and k, consisting of two integers i and j and one character k ($-1{,}000{,}000 \le i \le 1{,}000{,}000$, $j \in \{L, R\}$, and $1 \le k \le 2{,}000{,}000$). After n lines of triples, there is a line containing Younghee's current position as an integer between $-1{,}000{,}000$ and $1{,}000{,}000$.

Output
Your program is to write to standard output. Print exactly one line. The line should contain the position of Jisun's house.

The following shows sample input and output for two test cases.

Sample Input 1	Output for the Sample Input 1
4 3 R 4 0 L 2 7 L 5 -2 R 5 0	2

Sample Input 2	Output for the Sample Input 2
5 3 L 3 -1 R 11 5 L 6 1 R 4 10 L 7 1	0