



USACO 2023 DECEMBER CONTEST, SILVER PROBLEM 3. TARGET PRACTICE

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Time Remaining: 3 hrs, 49 min, 29 sec

Submitted; Results below show the outcome for each judge test case

* 1 3.4mb 2ms	* 2 3.4mb 2ms	* 3 3.4mb 2ms	* 4 3.4mb 2ms	* 5 3.4mb 9ms	* 6 3.4mb 10ms	* 7 5.3mb 1362ms	* 8 5.3mb 1012ms	* 9 5.3mb 681ms	* 10 5.2mb 646ms	* 11 5.2mb 971ms	* 12 5.2mb 069ms
				* 13 5.1mb 627ms	* 14 5.1mb 788ms	* 15 5.1mb 755ms					

English (en)

Bessie is a robovine, also known as a cowborg. She is on a number line trying to shoot a series of T ($1 \leq T \leq 10^5$) targets located at distinct positions. Bessie starts at position 0 and follows a string of C ($1 \leq C \leq 10^5$) commands, each one of L, F, or R:

- L: Bessie moves one unit to the left.
- R: Bessie moves one unit to the right.
- F: Bessie fires. If there is a target at Bessie's current position, it is hit and destroyed, and cannot be hit again.

If you are allowed to change up to one command in the string to a different command before Bessie starts following it, what is the maximum number of targets that Bessie can hit?

INPUT FORMAT (pipe stdin):

The first line contains T and C .

The next line contains the locations of the T targets, distinct integers in the range $[-C, C]$.

The next line contains the command string of length C , containing only the characters F, L, and R.

OUTPUT FORMAT (pipe stdout):

Print the maximum number of targets that Bessie can hit after changing up to one command in the string.

SAMPLE INPUT:

```
3 7
0 -1 1
LFFRFRR
```

SAMPLE OUTPUT:

```
3
```

If you make no changes to the string, Bessie will hit two targets:

Command	Position	Total Targets Hit
Start	0	0
L	-1	0
F	-1	1
F	-1	1 (can't destroy target more than once)
R	0	1
F	0	2
R	1	2
R	2	2

If you change the last command from R to F, Bessie will hit all three targets:

Command	Position	Total Targets Hit
Start	0	0
L	-1	0
F	-1	1
F	-1	1 (can't destroy target more than once)

R	0	1
F	0	2
R	1	2
F	1	3

SAMPLE INPUT:

```
1 5
0
FFFFF
```

SAMPLE OUTPUT:

```
1
```

If the commands are left unchanged, the only target at 0 will be destroyed. Since a target cannot be destroyed multiple times, the answer is 1.

SAMPLE INPUT:

```
5 6
1 2 3 4 5
FFRFRF
```

SAMPLE OUTPUT:

```
3
```

SCORING:

- Inputs 4-6: $T, C \leq 1000$
- Inputs 7-15: No additional constraints.

Problem credits: Suhas Nagar

Language:

C 

Source File:

未选择任何文件

Previous Submissions:

[Fri, Dec 15, 2023 22:45:45 EST \(C++17\).](#)