# **USA Computing Olympiad**

Overview

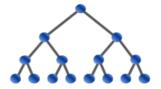
TRAINING

CONTESTS

HISTORY

STAFF

Resources



## USACO 2023 DECEMBER CONTEST, SILVER PROBLEM 3. TARGET PRACTICE

Return to Problem List

Time Remaining: 3 hrs, 49 min, 29 sec

					Su	ıbn	nitted; F	les	ults be	low	show t	he outcon	ne for each	ju	dge test	case		
	*		*		*		*		*		*	*	*		*	*	*	*
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English (en) V

Bessie is a robovine, also known as a cowborg. She is on a number line trying to shoot a series of T ( $1 \le T \le 10^5$ ) targets located at distinct positions. Bessie starts at position 0 and follows a string of C ( $1 \le C \le 10^5$ ) 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
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   -1	0
L	-1	0
	-1	1
F	-1	1 (can't destroy target more than once)

R F R	$  \begin{array}{cccccccccccccccccccccccccccccccccccc$
R F	1
SAMPLE II	
1 5	
0 FFFFF	
SAMPLE C	DUTPUT:
1	
If the comn the answer	mands are left unchanged, the only target at 0 will be destroyed. Since a target cannot be destroyed multiple times, r is 1.
SAMPLE II	NPUT:
5 6	
1 2 3 4 ! FFRFRF	5
SAMPLE C	DUTPUT:
3	
SCORING:	:
<ul><li>Input</li></ul>	ats 4-6: $T, C \le 1000$ tts 7-15: No additional constraints.
Problem cr	redits: Suhas Nagar

 Language:
 C

 Source File:
 选择文件 未选择任何文件

Submit Solution

### **Previous Submissions:**

Fri, Dec 15, 2023 22:45:45 EST (C++17)