

Crush

ZPRAC-16-17-Lab4

[25 points]

Harpreet, Bhuvesh and Shivam have a huge crush on a girl TA. But being really good friends, they don't want to fight. Instead, they decide to have a marathon to decide the winner! Upon hearing 'Marathon', Bhuvesh backs out. Now, it's between Shivam and Harpreet.

Question starts:

You are given the initial health and tracks for both contestants. The tracks are denoted as strings of characters '_', '+', '-', '*'. The ending of the track is denoted using '|'.

The contestants loose or gain health each step as follows:

'_' = -1

'*' = -2

'-' = -1

'+' = +1 (she cheers for them)

If someone's health drops to zero or less he cannot run anymore.

The one who stays longest on the track wins (The one who completes larger number of steps). If its a tie, Harpreet wins. You have to print the name of winner in capitals.

Note: Assume health to be **int**. Also keep in mind that you do not know the length of the track beforehand.

INPUT Format:

Harpreet's health (integer)

Harpreet's track (string)

Shivam's health (integer)

Shivam's track (string)

Example:

INPUT:

10

---__*+----|

9

-+-__*+----|

OUTPUT:

SHIVAM

