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03 Hr 19 Min 57 Sec

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Coding Area

A B C D E F

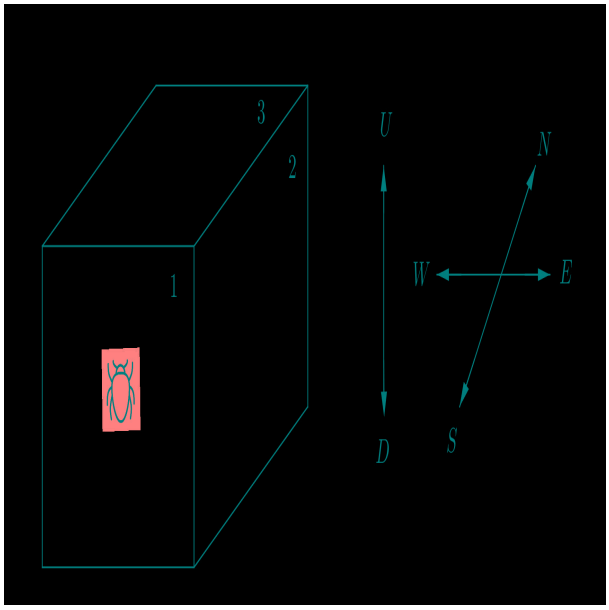
ONLINE EDITOR (D)

Bug Crawl

Problem Description

A cube has its 6 faces numbered from 1-6 (three of its faces are shown in the diagram). There are six possible orientations on the cube (U,D,N,E,W,S) as shown in the diagram, of which only 4 are possible on any one face (for example, on face 1, N and S are impossible orientations)

An electronic remote control bug is on a face of a cube at some orientation. On your command it can crawl around the cube. The possible commands are F,B,L,R.



Command F : it moves to the adjacent face in the same direction it is facing

.Command B : it turns around by 180° and moves forward by one face.

Command L: it turns left and moves forward by one face

Command R: it turns right and moves forward by one face.

The faces 4,5,6 are opposite to faces 1,2,3 respectively.

For example, if it has orientation U on face 1, on command L, it goes to face 5 and has orientation N, and from there on command F , it will move to face 4 and will have orientation E.

Given a sequence of commands, and the final position (face and orientation) of the bug (after executing the commands in the sequence), we need to determine the initial position (face and orientation) of the bug.

Constraints

The length of the string of command letters <=50

Input Format

One string of 2 characters giving the face and orientation of the bug after it executes the instructions. The first character is a number between 1 and 6, denoting the face, and the second character is the orientation (from the set {U, D, N, S, E, W}) of the bug after executing the commands

One string of command letters. This is a sequence of letters from the set of valid commands {F, B, L, R}

Output

One string of two characters denoting the position of the bug before it executes the instructions. The first character gives the face number (1,2,3,...,6) and the second giving the orientation (E,W,U,D,N,S) the bug was facing before it executed the instructions

Explanation

Example 1

Input

1U

FFF

Output

3N

Explanation

If the bug starts at 3N, it will move to 4D, 6S and 1U if a command F is given at each position. Hence, if it starts at 3N, after 3 consecutive F commands, it will be at 1U, which is the given final position. Hence the output is 3N.

Example 2

Input

4W

LRB

Output

3E

Explanation

If the bug starts at 3E, after the L command, it goes to 4D, and after the R command, it goes to 2S. From there, on the B command, it goes to 4W, which is the end position. Hence the output is 3E.

Upload Solution [Question : D]

☐ I, **AKASH KANDPAL** confirm that the answer submitted is my own.

☐ Took help from online sources (attributions)

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