CHALLENGE 1A

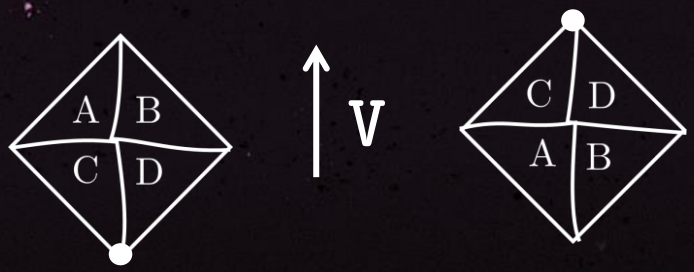
Double-Sided Ddakji

Problem Description

This double-sided ***ddakji*** has four symbols drawn on its face, with the top face arranged as follows:

The ddakji can be flipped **vertically** or **horizontally**, as described below:

- A **vertical flip** (`V`) is performed as shown:



- A **horizontal flip** (`H`) is performed as shown:

The ddakji starts in its original position $\begin{matrix} A & B \\ C & D \end{matrix}$. You are given a string of flips, consisting of the characters `V` and `H` in some order.

Your goal is to:

1. Determine the number of times the ddakji is flipped to its original orientation, excluding the first starting position, and
2. Output the final orientation of the ddakji after all of the flips.

Input Specification

A single string S of length $1 \leq |S| \leq 10^5$, consisting only of the characters `V` and `H`.

Output Specification

1. An integer N , the number of times the ddakji is in its original orientation.
2. The final orientation of the ddakji in a 2 × 2 grid format, space-separated with no leading spaces..

Sample Input / Sample Output

Sample Input	Sample Output

`VVHVVHHHHHVVVVV`	`6`
	`C D`
	`A B`

`VHVVHHV`	`0`
	`B A`
	`D C`

As a bonus, attempt the solution without using arrays.