Counting Valleys

An avid hiker keeps meticulous records of their hikes. During the last hike that took exactly $steps$ steps, for every step it was noted if it was an *uphill*, U, or a *downhill*, D step. Hikes always start and end at sea level, and each step up or down represents a 1 unit change in altitude. We define the following terms:

- A *mountain* is a sequence of consecutive steps *above* sea level, starting with a step *up* from sea level and ending with a step *down* to sea level.
- A *valley* is a sequence of consecutive steps *below* sea level, starting with a step *down* from sea level and ending with a step *up* to sea level.

Given the sequence of *up* and *down* steps during a hike, find and print the number of *valleys* walked through.

Example

$steps = 8$ $path = [DDUUUUDD]$

The hiker first enters a valley 2 units deep. Then they climb out and up onto a mountain 2 units high. Finally, the hiker returns to sea level and ends the hike.

Function Description

Complete the *countingValleys* function in the editor below.

countingValleys has the following parameter(s):

- *int steps*: the number of steps on the hike
- *string path*: a string describing the path

Returns

- *int:* the number of valleys traversed

Input Format

The first line contains an integer $steps$, the number of steps in the hike.
The second line contains a single string $path$, of $steps$ characters that describe the path.

Constraints

- $2 \leq steps \leq 10^6$
- $path[i] \in \{UD\}$

Sample Input

```
8
UDDDUDUU
```

Sample Output

```
1
```

Explanation

If we represent `_` as sea level, a step up as `/`, and a step down as `\`, the hike can be drawn as:

```
_/\      _
   \    /
    \/\/
```

The hiker enters and leaves one valley.