Counting Valleys

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Problem Submissions Leaderboard Discussions Editorial

Gary is an avid hiker. He tracks his hikes meticulously, paying close attention to small details like topography. During his last hike, he took exactly n steps. For every step he took, he noted if it was an *uphill* or a *downhill* step. Gary's hikes start and end at sea level. We define the following terms:

- A *mountain* is a non-empty 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 non-empty 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 Gary's sequence of *up* and *down* steps during his last hike, find and print the number of *valleys* he walked through.

Input Format

The first line contains an integer, n, denoting the number of steps in Gary's hike.
The second line contains a single string of n characters. Each character is $\in \{U, D\}$ (where `U` indicates a step *up* and `D` indicates a step *down*), and the i^{th} character in the string describes Gary's i^{th} step during the hike.

Constraints

- $2 \leq N \leq 10^6$

Output Format

Print a single integer denoting the number of valleys Gary walked through during his hike.

Sample Input

```
8
UDDDUDUU
```

Sample Output

```
1
```

Explanation

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

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

It's clear that there is only one valley there, so we print 1 on a new line.

Submissions:22009

Max Score:15
Difficulty: Easy

Rate This Challenge:
☆ ☆ ☆ ☆ ☆

More

Current Buffer (saved locally, editable)

Java 7

```
1  import java.io.*;
2  import java.util.*;
3  import java.text.*;
4  import java.math.*;
5  import java.util.regex.*;
6
7  public class Solution {
8
9      public static void main(String[] args) {
10         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
11     }
12 }
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code