

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

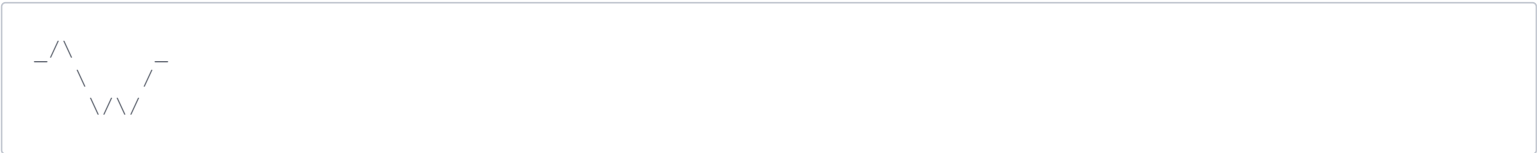
```
8
UDDDDUDDUU
```

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.