# Task: TRZ
# Three towers

Olimpiada Informatyczna

**XXII OI, Stage II, Day two. Source file `trz.*` Available memory: 128 MB.** *12.02.2015*

Bythony loves to play. In his room, he has arranged a row of $n$ colored blocks. Each block is either white, gray, or black. Bythony would like to pick a contiguous segment in the row of blocks, and construct towers out of its blocks.

Each tower may consist of blocks of one color only, and the tower colors have to be distinct (thus, Bythony can construct at most three towers). Moreover, the heights of the towers, i.e., the numbers of blocks they consist of, also have to be unique. We assume that Bythony has to utilize all the blocks in his segment of choice. Help him out by writing a program that determines the longest contiguous segment of the row of blocks that satisfies these requirements.

## Input

The first line of the standard input contains a single integer $n$ ($1 \leq n \leq 1\,000\,000$), which specifies the number of blocks. The next line contains a string of $n$ characters $a_1 a_2 \ldots a_n$, where $a_i$ is one of the three characters `B`, `S`, or `C`, and specifies the color of the $i$-th block in the row: `B` denotes white, `S` gray, and `C` black (these stand for Polish names of the colors: *biały*, *szary*, and *czarny*).

In tests worth 30% of the total score, an additional condition $n \leq 2500$ holds.

## Output

The first and only line of the standard input should contain a single integer, equal to the number of blocks in the longest segment that satisfies Bythony's requirements.

## Example

| For the input data: | the correct result is: |
|---|---|
| `9`<br>`CBBSSBCSC` | `6` |

**Explanation:** Bythony can choose a segment of 6 blocks: `BSSBCS`, out of which he can construct a three blocks high gray tower, two blocks high white tower, and a one block high black tower.

**Sample grading tests:**

- `1ocen`: $n = 2500$, the row is as follows: $\texttt{B}^{1248}\texttt{C}\underline{\texttt{SB}^{1250}}$ (the string $\texttt{B}^k$ denotes a $k$-repetition of the character `B`); the longest segment Bythony can choose is underlined;
- `2ocen`: $n = 1\,000\,000$, the row is as follows: `BSCBSCBSC`...`BSCBSCB`; Bythony can construct only a single one block high tower.