Bricks and Blocks

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C++ — 2 sec — 512 MB

Kept from her childhood, Tina has a large collection of coloured wooden blocks. She has constructed a tall tower of them and has devised a new game. The current tower looks very unstable, so Tina's game involves turning this tower into two smaller towers.

Each round, she takes the top block off of the tower and places it on top of one of the two new towers. She then looks at the top 4 blocks in the tower on which she has placed the block. For each block of a different colour, she scores one point. If a tower is smaller than 4 blocks tall, Tina looks at all of the blocks in the tower.

Tina has 4 different coloured blocks: red (`R`), green (`G`), blue (`B`), and white (`W`). For example, if the top 4 blocks on a tower is `RGRW`, Tina would score 3 points.

The aim of the game is to maximise the number of points gained after the original tower has been deconstructed. Note that all the blocks can be placed on one tower.

INPUT You will be given integer **n**, denoting the height of the original tower. The next line contains **n** characters from `RGBW`, representing the blocks in the tower. The top of the tower is given on the left.

$1 \leq \mathbf{n} \leq 4{,}000$

OUTPUT Output a single integer, the maximum number of points Tina can get after deconstructing the original tower.

SAMPLE For example, suppose the original tower is `RRGGBBWW`. It can be deconstructed into the towers `WBGR` and `WBGR`, getting a total score of 20 points. This is the best score she can get.

INPUT	OUTPUT
6 `RGGBRW`	15
20 `RGGBRGBWGBGBGRBGWBGR`	57
25 `RRRRRRRGGGGGGGBBBBBRRRRBG`	44