## ABCs of Men and Women, Part 2

First, if the string s already satisfies the condition, then the answer is 0, since we don't need to append any more characters. Otherwise, it is impossible to solve with 0 appended characters.

If s has at least two characters and its last two characters are different (did you handle the n = 1 edge case?), then we can make s satisfy the condition with just 1 extra character—append whichever of ABC isn't among the last two characters of s. In this case, the answer is 1. Otherwise, it is impossible to solve with only 1 appended character.

Finally, we can always satisfy the condition with 2 extra characters. We can always make s satisfy the condition by appending two extra characters—append whichever of ABC are not equal to the last letter of s. Thus, if we have reached this case, then the answer must be 2.

We can check if the answer is 0 by literally examining all  $\mathcal{O}(n)$  substrings of length 3 and seeing if any of them have all-distinct letters. This gives us an  $\mathcal{O}(n)$  solution.