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Assignment 2

The spelling corrector algorithm fails in the following cases:

1. In the case of proper nouns, the spelling corrector fails as it tries to correct them when it should not. For example, Dashword becomes Password. The reason it fails is that the algorithm corrects every word that does not appear in the dictionary. As most proper nouns are not in the dictionary, it changes them incorrectly.

2. Another major reason algorithm fails is that the way the list is ordered. The algorithm returns the word that appears first in the dictionary as a correction for a word. So, if the Levenshtein distance for a particular word is the same for multiple words in the dictionary, it will return the work that appears first. For example, the word 'ws' is always corrected to 'was', although in some situations it should be corrected to 'we'. This is because was appears before we in the dictionary.

3. In cases where, the word has been misspelled as a legitimate word won't be corrected. Basically, algorithm fails to take context of the text into account.

4. Another reason the algorithm fails is when the Levenshtein distance of a given word is too much or too large. This causes the word to change entirely. For example, the word 'acqauintance' changes to assistance but it should change to acquaintance. So basically, the word changes entirely. We can set a threshold to this value and only change the word if the Levenshtein distance of that word with the words in the dictionary is less than the threshold. Though the word won't get corrected, it will not change to something entirely different.