**Week 9: PE09 – Programming Exercise**

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CS469: Data Structures/Algorithms

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**Programming Exercise – PE08**

**Question 1: As part of the assignment, describe how the algorithms can be implemented using recursive and how it would perform.**

The algorithm can be implemented using recursion by comparing the last characters of the two strings. If they match, we can add 1 to the LCS counter and then check the smaller parts of both strings. If they don't match, then we can either ignore the last character of the first string or the last character of the second string and take whichever result is bigger. If one of the strings is empty, then we would just return 0. I believe the runtime for this one O(2^n) since it is running through the same substrings multiple times (much slower).