

Tutorial 4: CS21003 Algorithms 1

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Solve the problems mentioned below by presenting the recursive definition, analysing the structure, proposing refinements and finalizing the algorithm with data structures. Show its working on an example.

1. Given a String S and a pattern P , find whether there is a match of P in S with at most one letter mismatch. How will you extend this to k letter mismatch?
2. Find the Longest Common Subsequence between three strings. How will you extend this if we are to limit the unmatched gap between two letter matches to at most k letters?
3. Given a 4-peg Tower of Hanoi problem of n disks, find the minimum number of moves to move all n -disks from Peg 1 to Peg 4. How will you extend this to k -peg Tower of Hanoi?