1143: Longest Common Subsequence

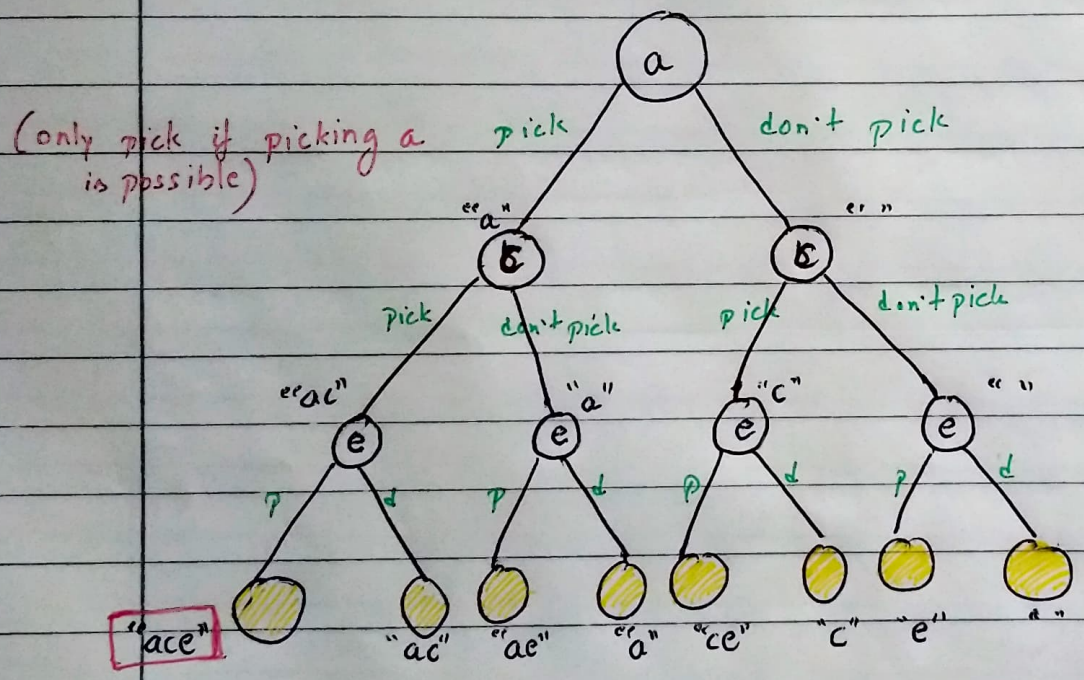
text1 = "ezupkr" text2 = "ubmrapg"

Longest common subsequence with order preserved.

Brute force approach

Simple example text1 = "abcde" text2 = "ace"

Choose small text first



Either "a" can be part of LCS or not, same goes for all other elements.

∴ This problem can be solved using recursion, and memorization.

And that memorization can be translated to tabulation but again we have to go in reverse direction.

Recurrence relation:

$$F(\underset{(s)}{short\_pos}, \underset{(l)}{long\_pos}) = \max\left(1 + F(s+1, l+1), F(s+1, l)\right)$$

Base case $s == len(short)$ (m) $\quad l == len(long)$ (n)

return 0.

Since base base case starts from m and n.

We have to start from m & n and return F[0,0]