

$$\begin{array}{c}
 X[1..N], \quad Y[1..M] \\
 (N, M) \\
 \hline
 X[1..N-1], \quad Y[1..M-1] \quad (N-1, M-1)
 \end{array}$$

$A(i, j)$ as the set of common subsequences
of $X[1..i], Y[1..j]$

$$\checkmark A(i-1, j-1) \subset A(i, j)$$

$$\checkmark A(i-1, j) \subset A(i, j)$$

$$\checkmark A(i, j-1) \subset A(i, j)$$

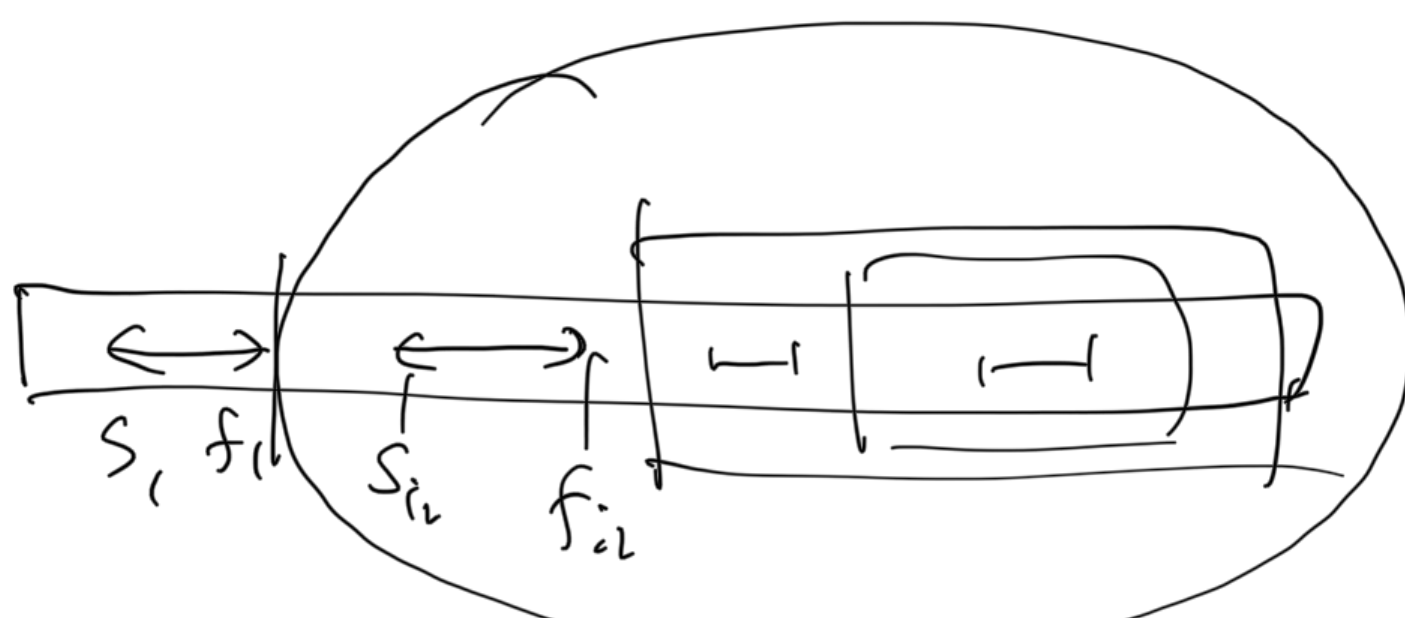
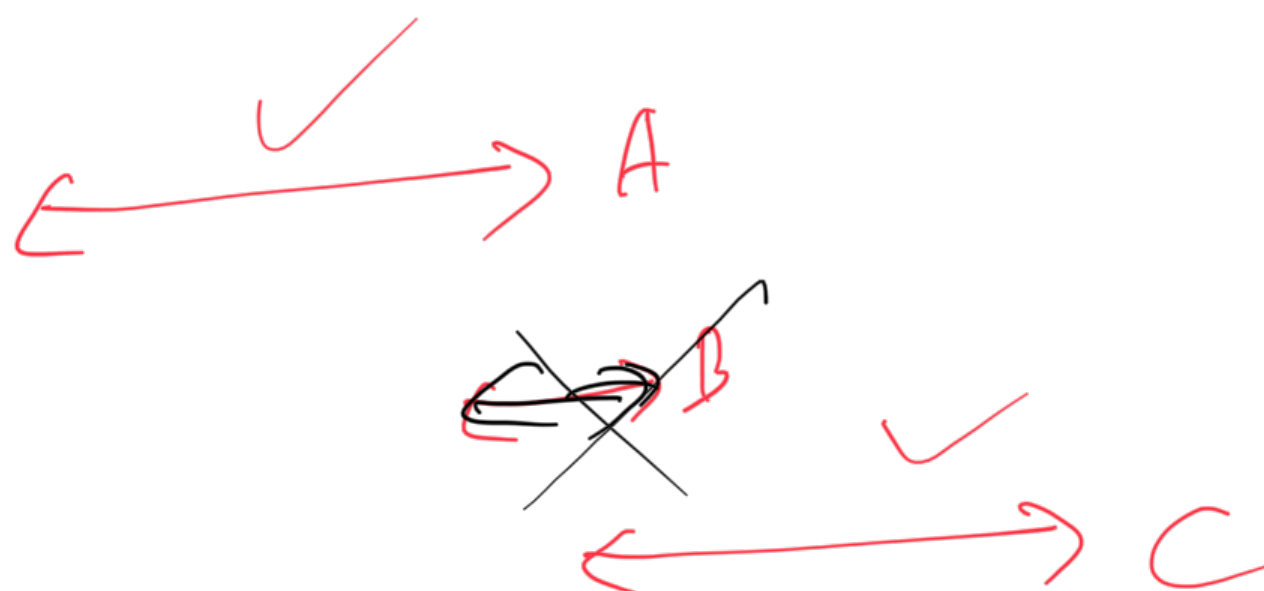
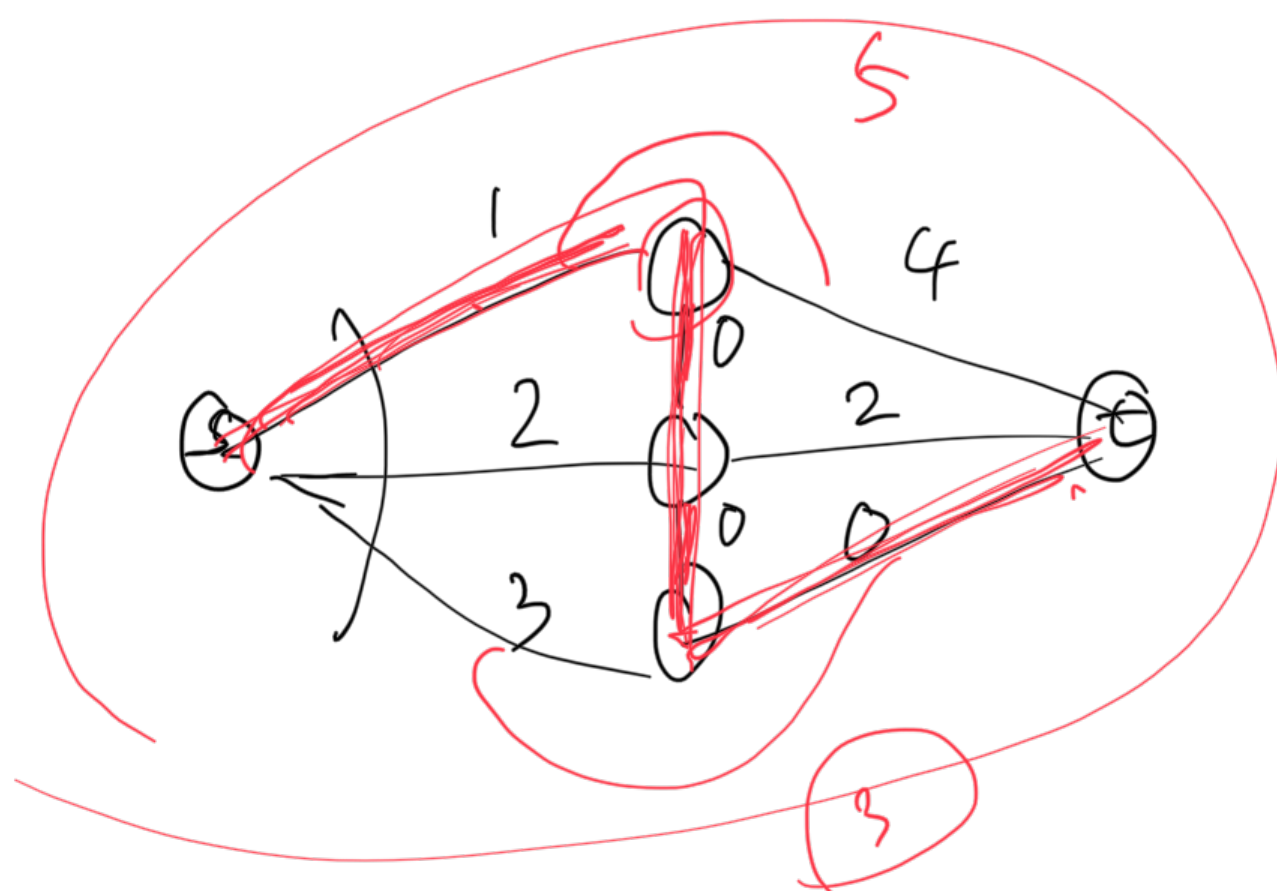
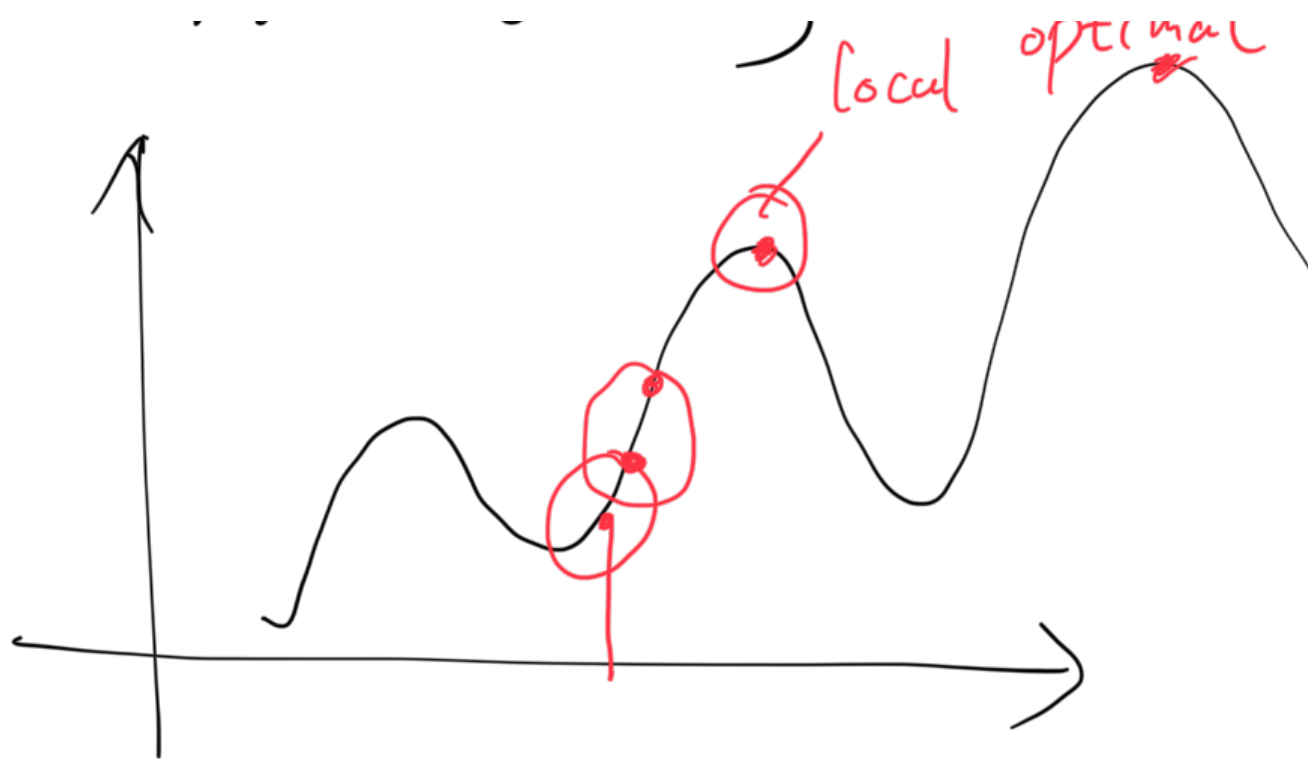
$$A(i, j-1) \cup A(i-1, j) \subset A(i, j)$$

$$LCS(X[1..N], Y[1..M])$$

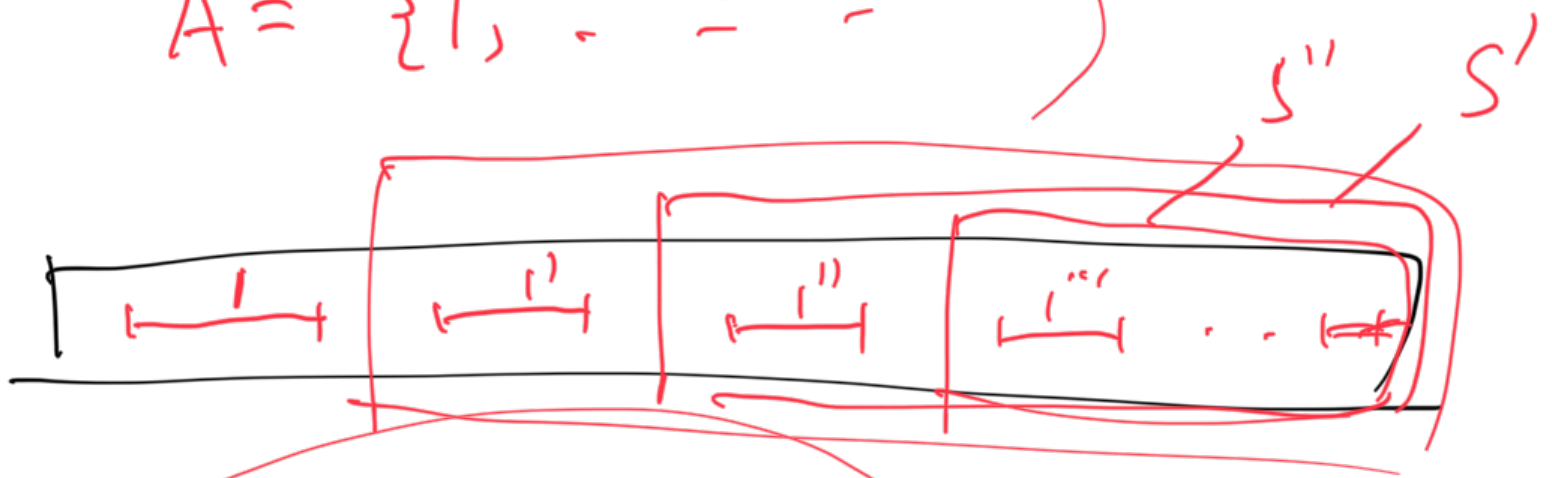
$$= \max \left(\begin{array}{l} LCS(X[1..N-1], Y[1..M]), \\ LCS(X[1..N], Y[1..M-1]) \end{array} \right)$$



hill climbing



$$A = \{1, \dots\}$$



$$A' = A - \{1\}$$

$$A = \{1, 1', \overset{A''}{\dots}\}$$