Suffix Trees

The alphabet {A,B,C,D,N} is given.

a) Insert the sequence $G_1 = \{B, A, N, A, N, A\}$ into an empty suffix tree ST
b) Additionally insert the sequence $G_2 = \{C, A, N, A, D, A\}$ into ST.
c) Find the subsequence $S_1 = \{N, A, N, A\}$. Which sequence contains S_1?
d) Which is the longest common subsequence of G_1 and G_2?

Levenshtein Distance

$$D_{i,j} = \min \begin{cases} D_{i-1,j-1}, if\ s_{1,i} = s_{2,j} \\ D_{i-1,j-1} + 1, if\ (Substitution) \\ D_{i,j-1} + 1, if\ (Insertion) \\ D_{i-1,j} + 1, if\ (Deletion) \end{cases}$$

Compute the Levenshtein Distance between the sequences:

- BANANA and CANADA

Levenshtein Distance

$$D_{i,j} = \min \begin{cases} D_{i-1,j-1}, if\ s_{1,i} = s_{2,j} \\ D_{i-1,j-1} + 1, if\ (Substitution) \\ D_{i,j-1} + 1, if\ (Insertion) \\ D_{i-1,j} + 1, if\ (Deletion) \end{cases}$$

Compute the Levenshtein Distance between the sequences:

- PAPAYA and PARAGUAY