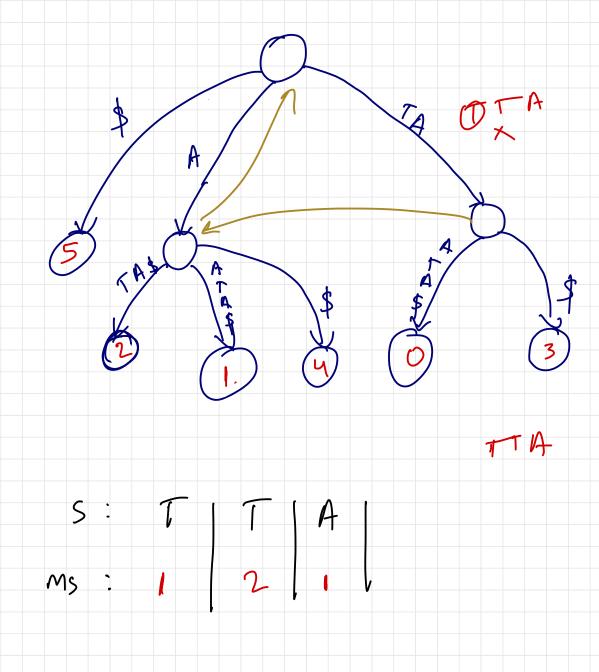


Assignment 03 Q.03.1 (Shaique + Sandhya) Criven: ret sit stoings with ISI = [t] me have suffix tree of s(snowles string) wim suffix linker we have Matching Statistics M To Prove: - Computation of M in O(n) P-600F:= 1. Initialise Empty suffix the for string S 2. Thomask me suffix tree of s and committe me following values for each node: each node:-

· Denm: The denvy of me node in he tree (The length of substring it represents) · Stoot Position: The position in S where he Su 68 bing represented by rode stables 3. Initilise the assay Muim Zeroes. U. Traverse string to wom each position i. · Use me suffix toegs of 5 to find at i and any suffix of tslowling · Updase MCi) wim seigm of his longest common substaineg. S. Rekum M

Since each drasactes in 'S' is Scanned only once, compunion time & length of S . Time complexity Example: ofinding M Mossigh slide Example. ; S= TTA\$ T= TAATA\$ A T A \$ ATAS AT



The longest substaing is given by me P[i:] if at me im position, me boune a maxima. Ast shown in table below. P[i:] i=1 i=2 · . To make this table, Each characters of T& P is read once. we have fine camplexing = QISHIti) Q03.3 (Shaigner Sandhya) Given POS Q LCP Assoy -> reconstruct
Suffix + ree-Step 1: Creating root node Up a stack to toach me distance blu root node and anomes vasiable colled active-node Stenz 72 i E [1, len (pos)] -> lcp_value = lcp[i] -> While [active-node-800t_node] ICD_volue

pop nodes from stalk till [active_node] 5 lep_volve Update achienoide -> top of stackpos = [10, 9, 4, 7, 2, 5, 0, 8, 3, 6, 1] LCN = - [0 1 1 3 3 5 0 2 2 4 - 7 -> pos[0]=10 ->\$ > pos[i]= 9 and GCP = 0, which means no common character in the i we can add as to me text