

CSE221

Assignment 4

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Section: 9

1a) String 1: 24301500

i) String 2: 24180300

ii) L_{AS}: 24300

24100

24000

b) iii). 24301500

20251905

x	2↑	4	3	0	1	5	0	0
x	0	0	0	0	0	0	0	0
2	0	↓↑	↓←	↓←	↓←	↓←	↓←	↓←
0	0	↓↑	↓←	↓←	2↑	2←	2←	2←
2	0	↓↑	↓←	↓←	2↑	2←	2←	2←
5	0	↓↑	↓←	↓←	2↑	2←	3↑	3←
1	0	↓↑	↓←	↓←	2↑	3↑	3←	3←
9	0	↓↑	↓←	↓←	2↑	3↑	3←	3←
0	0	↓↑	↓←	↓←	2↑	3↑	4↑	4↑
5	0	↓↑	↓←	↓←	2↑	3↑	4↑	4←

length = 4

iv) 2015

$$Q. \quad S = X_1 X_2 X_3 X_4 \quad T = Y_1 Y_2 Y_3 Y_4$$

i j

i) T represents the length of LCS between an empty prefix of S and the first character of T.

ii) X_2 is the same character as Y_3

iii) X_3 and Y_3 are not the same characters

iv) unique $X_1 \neq Y_1 \neq Y_2 \neq Y_3$

$X_1 = Y_4$
unique $- X_2 \neq Y_1 \neq Y_2 \neq Y_4$

$X_2 \neq X_1 \neq X_3 \neq X_4$

$X_2 = Y_3$

$X_3 \neq Y_1 \neq Y_3 \neq Y_4$

$X_3 \neq X_2 \neq X_1 \neq X_4$

$X_3 = Y_2$

$X_4 = Y_1$

$X_4 \neq X_1 \neq X_2 \neq X_3$

$\boxed{3} = 1$

	X_4	X_3	X_2	X_1
X_1				
X_2				
X_3				
X_4				

v) $\Delta = 1$

vi) Only the current and previous columns (i^{th} and $i-1^{th}$)

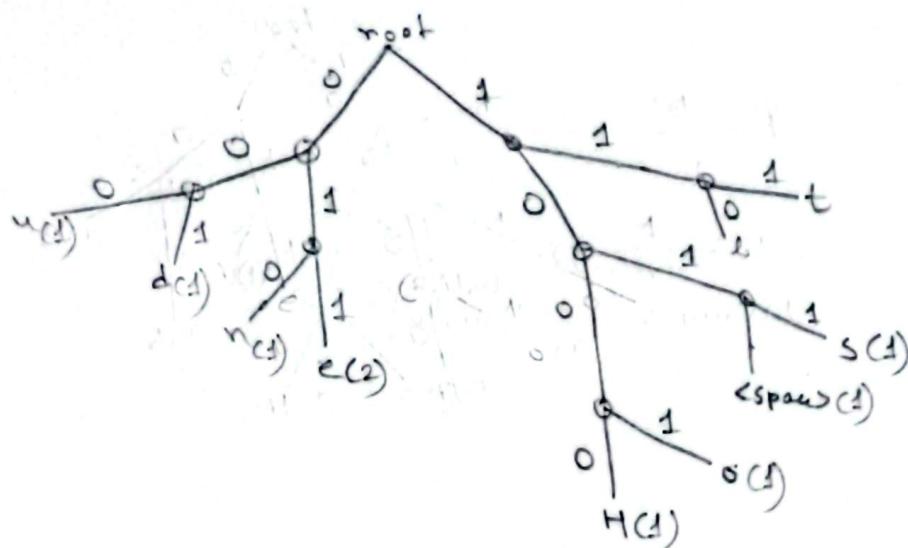
vii) Yes instead of storing full $m \times n$ table, we can store only 2 rows or 2 columns.

3. Leaf nodes except e,l,t is 1

left = 5
right = 8 (of main root)

a) b

b)



c) $e \rightarrow 2$

$l \rightarrow 2$

$t \rightarrow 2$

4. a) credits = 9

	0	1	2	3	4	5	6	7	8	9
10	Phy112	0	10	10	10	10	10	10	10	10
4	330	0	10	10	18	18	18	18	18	18
5.33	331	0	10	10	18	26	26	34	34	34
3.25	370	0	10	10	18	26	26	34	34	39
3.4	499	0	10	10	18	26	26	34	34	43
	5									

CSE499, CSE331, Phy112

b) Phy112, CSE331, CSE330 \rightarrow he could pick these 3 best per value

$$1 + 3 + 2 = 6$$

$$10 + 16 + 8 = 34 \rightarrow \text{value he would get}$$

\therefore Zed won't get more valued courses (in total)