

June 26, DP

26 June 2020 10:10

Longest Common Subsequence

Cipherschools		
Word	IsSubString?	IsSubsequence?
iphers	✓	✓
phols	X	✓
pher	✓	✓
phlc	X	X

ABCDGH
AEDFHR

ABC
AC

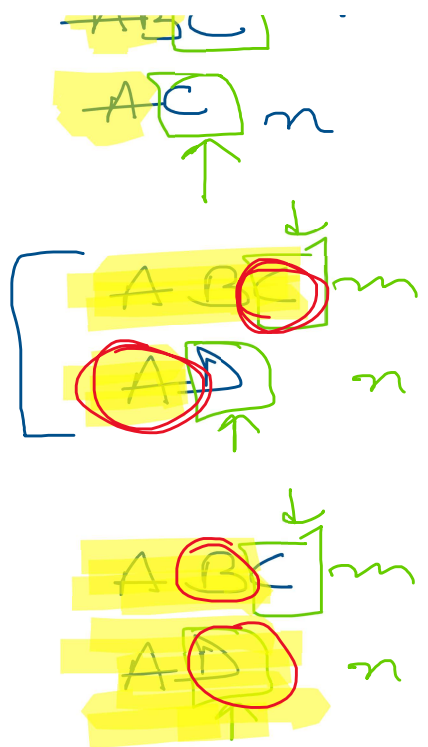
<u>LCS</u>		
S1	" "	0
S2	" "	
S1	" "	
S2	"abc"	0
S1	"abc"	0
S2	" "	

```

if (m==0 || n==0)
{ return 0;
}
BASE
    
```

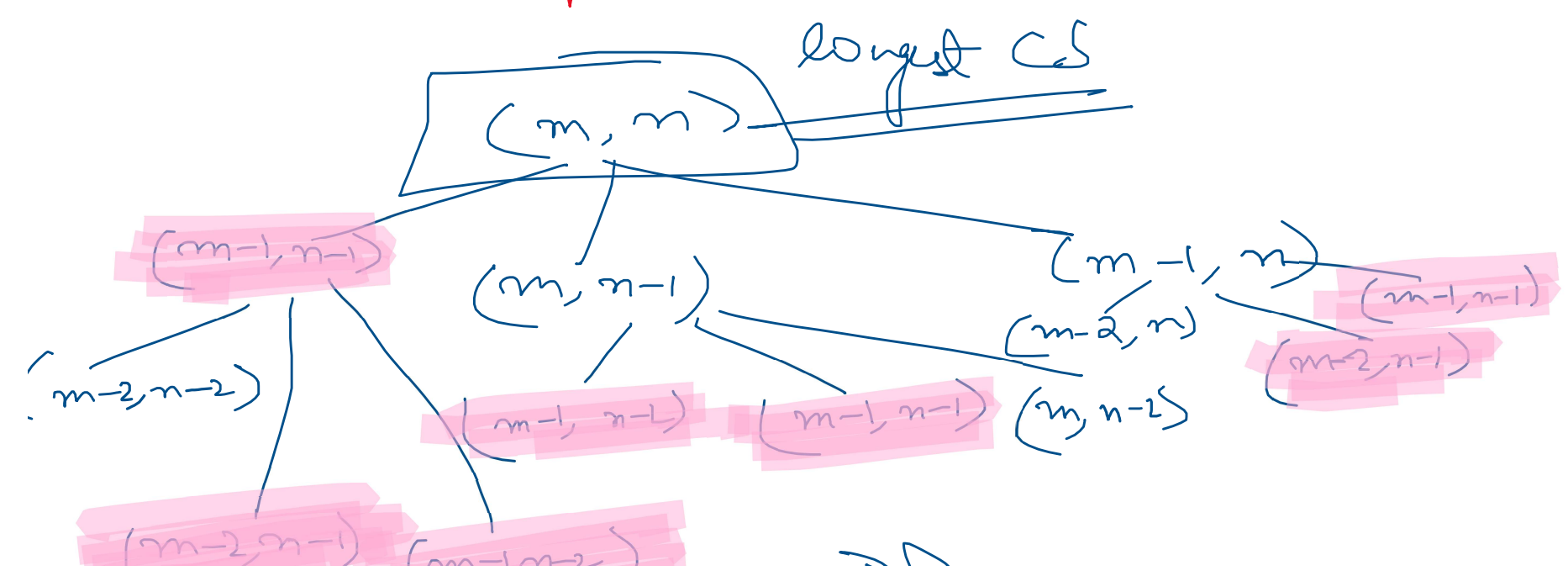
if equal $1 + 1 \cdot \text{LCS}(S1, S2, m-1, n-1)$

101 m



else
 → Max
 ↑
 longest common Subsequence

$LCS(s_1, s_2, m, n-1);$
 $LCS(s_1, s_2, m-1, n);$



DP

Memoize & Tabulate

↳ Do it by your own.

Ping me if you get Stuck.

Longest Increasing Subsequence

583791

58

589

89

37

79

LC(arr, i)

379

LC

579

i-1

↓

↓

Global max

55

m-1

3, 2

10	22	9	33	21	50	41	60	
10	10	9	10	10	10	10	10	10
22	22	9	22	21	22	22	22	22

7 → 4

