

## Longest Common Sub-sequence (LCS)

- ◇ Name: Vaibhavi Purushottam Arjunwadkar
- ◇ Time complexity of the algorithm  
**LCS:** -  $O(m*n)$
- ◇ List the results of executing **LCS\_DP\_CB.py** with strings in **LCS1.txt** used as X and Y parameters in the format shown below.

```
X = "Diagonal"      Y = "Dragon"
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      |      1  2  3  4  5  6
      |  Y  D  r  a  g  o  n
-----

  X  |  0  0  0  0  0  0  0
1  D  |  0 \ 1 < 1 < 1 < 1 < 1
2  i  |  0 ^ 1 ^ 1 ^ 1 ^ 1 ^ 1
3  a  |  0 ^ 1 ^ 1 \ 2 < 2 < 2 < 2
4  g  |  0 ^ 1 ^ 1 ^ 2 \ 3 < 3 < 3
5  o  |  0 ^ 1 ^ 1 ^ 2 ^ 3 \ 4 < 4
6  n  |  0 ^ 1 ^ 1 ^ 2 ^ 3 ^ 4 \ 5
7  a  |  0 ^ 1 ^ 1 \ 2 ^ 3 ^ 4 ^ 5
8  l  |  0 ^ 1 ^ 1 ^ 2 ^ 3 ^ 4 ^ 5
-----

Length of Longest Common Subsequence is: 5
The Longest Common Subsequence of "Diagonal" and "Dragon" is "Dagon"
```