**B. AIM:-**Longest Common Subsequence using Dynamic Programming.

**Code:-**

def longest\_common\_subsequence(X, Y):

m, n = len(X), len(Y)

L = [[0] \* (n + 1) for \_ in range(m + 1)]

for i in range(1, m + 1):

for j in range(1, n + 1):

if X[i - 1] == Y[j - 1]:

L[i][j] = L[i - 1][j - 1] + 1

else:

L[i][j] = max(L[i - 1][j], L[i][j - 1])

return L[m][n]

if \_\_name\_\_ == "\_\_main\_\_":

X = "AGGTAB"

Y = "GXTXAYB"

print(f"The length of the longest Common Subsequence is: {longest\_common\_subsequence(X, Y)}")

**Output:-**

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