718 Maximum length of repeated subarray

Let $dp[i][j]$ be value of max length of repeated subarray in $nums1[0..i]$ and $nums2[0..j]$

if $nums1(i) == nums2(j)$
$$dp(i)(j) = 1 + dp(i-1)(j-1)$$

else
$$dp(i)(j) = 0$$

return max from dp.

eg:

nums1 = $[1,2,3,2,1]$

nums2 = $[3,2,1,4,7]$

	nums1 i					
	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0	0	0	1	0	0
2	0	0	1	0	2	0
3	0	1	0	0	0	2
4	0	0	0	0	0	0
5	0	0	0	0	0	0

nums2 j

initialize

Answer

Time Complexity

$$O(n1 \times n2)$$

$len(nums1)$

$len(nums2)$

Space Complexity

$$O(n1 \times n2)$$