Edit Distance

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Question | Solution

Total Accepted: **43811** Total Submissions: **163427** Difficulty: **Hard**

Given two words *word1* and *word2*, find the minimum number of steps required to convert *word1* to *word2*. (each operation is counted as 1 step.)

You have the following 3 operations permitted on a word:

a) Insert a character

b) Delete a character

c) Replace a character

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Python

```
class Solution(object):
    def minDistance(self, word1, word2):
        """
        :type word1: str
        :type word2: str
        :rtype: int
        """
        len1=len(word1);len2=len(word2)
        if len1==0 or len2==0:return len1+len2
        dp = [[0 for i in range(len2)] for j in range(len1)]
        for i in range(len1):
            for j in range(len2):
                if word1[i]==word2[j]:
                    if i==0 and j==0:dp[i][j]=0
                    elif i==0:dp[i][j]=j
                    elif j==0:dp[i][j]=i
                    else:dp[i][j]=dp[i-1][j-1]
                else:
                    if i==0 and j==0:dp[i][j]=1
                    elif i==0:dp[i][j]=dp[i][j-1]+1
                    elif j==0:dp[i][j]=dp[i-1][j]+1
                    else:dp[i][j]=min(dp[i-1][j-1],min(dp[i-1][j],dp[i][j-1]))
```

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```
23          return dp[len1-1][len2-1]
```

Custom Testcase

Run Code | Submit Solution

Submission Result: Accepted (/submissions/detail/42407722/)

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Next challenges: (M) One Edit Distance (/problems/one-edit-distance/)

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