class Solution:

def isInterleave(self, s1: str, s2: str, s3: str) -> bool:

length1 = len(s1)

length2 = len(s2)

length3 = len(s3)

# Length check

if length1 + length2 != length3:

return False

dp = [[False] \* (length2 + 1) for \_ in range(length1 + 1)]

dp[0][0] = True

# Initialize first row

for j in range(1, length2 + 1):

dp[0][j] = dp[0][j - 1] and s2[j - 1] == s3[j - 1]

# Initialize first column

for i in range(1, length1 + 1):

dp[i][0] = dp[i - 1][0] and s1[i - 1] == s3[i - 1]

# Fill the table

for i in range(1, length1 + 1):

for j in range(1, length2 + 1):

use\_s1 = dp[i - 1][j] and s1[i - 1] == s3[i + j - 1]

use\_s2 = dp[i][j - 1] and s2[j - 1] == s3[i + j - 1]

dp[i][j] = use\_s1 or use\_s2

return dp[length1][length2]