

===== Input =====

```
solver = Solution()
a = '111'
b = '100'
c = '111010111001'
print solver.prob6_2(a,b,c)
```

===== Output =====

True

===== Python code =====

```
import numpy as np
class Solution(object):
    def prob6_2(self,a,b,c):
        p = len(a)
        q = len(b)
        r = len(c)
        #Init
        Memo = np.zeros((p,q,r+1),dtype=bool)
        Memo[0][0][r] = True
        #base case
        for k in range(r-1,-1,-1):
            for i in range(p):
                for j in range(q):
                    if i < p-1 and j < q-1:
                        Memo[i][j][k] = (Memo[i+1][j][k+1] and (c[k] == a[i])) or
(Memo[i][j+1][k+1] and c[k]==b[j])
                    if i == p-1 and j < q-1:
                        Memo[i][j][k] = (Memo[0][j][k+1] and (c[k] == a[i])) or
(Memo[i][j+1][k+1] and c[k]==b[j])
                    if i < p-1 and j == q-1:
                        Memo[i][j][k] = (Memo[i+1][j][k+1] and (c[k] == a[i])) or
(Memo[i][0][k+1] and c[k]==b[j])
                    if i == p-1 and j == q-1:
                        Memo[i][j][k] = (Memo[0][j][k+1] and (c[k] == a[i])) or
(Memo[i][0][k+1] and c[k]==b[j])
        return Memo[0][0][0]
solver = Solution()
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```