



Common Child ☆

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A string is said to be a child of a another string if it can be formed by deleting 0 or more characters from the other string. Given two strings of equal length, what's the longest string that can be constructed such that it is a child of both?

For example, ABCD and ABDC have two children with maximum length 3, ABC and ABD. They can be formed by eliminating either the D or C from both strings. Note that we will not consider ABCD as a common child because we can't rearrange characters and $ABCD \neq ABDC$.

Function Description

Complete the commonChild function in the editor below. It should return the longest string which is a common child of the input strings.

commonChild has the following parameter(s):

- s1, s2: two equal length strings

Input Format

There is one line with two space-separated strings, **s1** and **s2**.

Constraints

- $1 \leq |s1|, |s2| \leq 5000$
- All characters are upper case in the range ascii[A-Z].

Output Format

Print the length of the longest string **s**, such that **s** is a child of both **s1** and **s2**.

Sample Input

```
HARRY
SALLY
```

Sample Output

```
2
```

Explanation

The longest string that can be formed by deleting zero or more characters from **HARRY** and **SALLY** is **AY**, whose length is 2.

Sample Input 1

```
AA
BB
```

Sample Output 1

```
0
```



Explanation 1

AA and **BB** have no characters in common and hence the output is 0.

Sample Input 2

```
SHINCHAN
NOHARAAA
```

Sample Output 2

3

Explanation 2

The longest string that can be formed between **SHINCHAN** and **NOHARAAA** while maintaining the order is **NHA**.

Sample Input 3

```
ABCDEF
FBDAMN
```

Sample Output 3

2

Explanation 3

BD is the longest child of the given strings.

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C++



```
3 using namespace std;
4
5 // Complete the commonChild function below.
6 int commonChild(string s1, string s2) {
7     int m = s1.length();
8     int n = s2.length();
9     int memo[m + 1][n + 1];
10
11     for (int i = 0; i <= m; i++) {
12         for (int j = 0; j <= n; j++) {
13             if (i == 0 || j == 0)
14                 memo[i][j] = 0;
15             else if (s1[i - 1] == s2[j - 1])
16                 memo[i][j] = memo[i - 1][j - 1] + 1;
17             else
18                 memo[i][j] = (memo[i - 1][j] > memo[i][j - 1])?memo[i - 1][j]: memo
19 [i][j - 1];
20         }
21     }
22     return memo[m][n];
23 }
```

Line: 13 Col: 10

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Compiler Message

Segmentation Fault

Input (stdin)

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```

1  UBBJXJGKLGXTFBJYNLHQPULFILXLMQDQFIYVBRSRFNETTEGXOHLBVOAJMHLZMTMPSJCPWJGHISUUIKD
  PPAWVQMZECIEIQUPLMFKENHVLKCVDDSDUPDOZXBZSRMWHLIHENULKFEXVCZIOVHRQHZWMDAYLDL GXSTMP
  DBGAMEBHOMOGGEBFRITAQVALWGINAOWMTRJLJHGEVJOPCVXZQVDBKOUFPJWHMRXULNNKRUIITTVIXYYSZ
  DECBIBBIWPDDEMFDHJKUSIFZNOTGIVDIJJVHPOGQHXWERMNYGYOHJYGNVFNWNERWMTBZOAXNHTCJIB
  OCUBXERSJORHOAMALOODYOHXIDEINMDWSNKUKFLMFHJLUIFOVDDSGPRJLUOLSFCVNCVZUIWRFLKGCKPHGB
  WMXGNATTRKPOPYMTHSRVHVXOGFVRSKDVHCTJJIRAWOLDFDCRXROEVQXMDVOJSGHUPHDSGAJUFWLILUN
  CGSEPBIGBDNNAGCHBZHFVUDPAQLAXIPLSZWDLRQJOMILYKVJNMGBBPARKUUTIHOFKIRWUUAZASRTOO
  YHPNHCANPDHGZEWHKAI BGDAAZLAYRWKRWUKBVTRAMLQKSRYVSRXRYVVBUEGBMGXAZMTQMAJHKGQCRLAJ
  ORKHTVLPWFDOZFWHJXMMHNMQIJOBNALQMPBHMIZCGRGQKOSTJHQXYXUOFKDYKHEISOYNVJSMLYSTEEBW
  SPFNWIYVBWEFGTUFRRZZJGXSQUGLKQNJPLKDTXOZQEHXXGKHJZPUUOCWMXUNIBNTJCUFXRQWZGZSLYAD
  LXFYOOPLJRLSYYYHQUCFEAHNWZOMOUWAUYRFAWHDUPAOJHHPIWYLQRFXGRUCUOAMDNFVTTWTXREEUFCS
  XADRQKRLRTWYSOGJQSIQZQJHLFWOHTMTYETCJRBRVNYAWIOTXTVEVJMXSGDBESHKJMWQZLWBPSPRQAIVUR
  COZJUXTKCDVJSTEEEXWZCHIFXCROXLHDDVGSFLRPNLRPNXFUUBAT{-truncated-}

```

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