

# Disc Swap

Problem Code: **DISCSWAP**



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Given two strings **I** and **F**, where **I** is the initial state and **F** is the final state. Each state will contain 'a','b' and only one empty slot represented by '\_'. Your task is to move from the initial state to final state with minimum number of operation.

Allowed operations are

1. You can swap empty character with any adjacent character. (For example 'aba\_ab' can be converted into 'ab\_aab' or 'abaa\_b').

2. You can swap empty character with next to adjacent character only if adjacent character is different from next to adjacent character. (For example 'aba\_ab' can be converted into 'a\_abab' or 'ababa\_', but 'ab\_aab' cannot be converted to 'abaa\_b', because 'a' cannot jump over 'a').

[All Submissions \(/DI17R045/status/DISCSWAP\)](#)

**Successful Submissions**



## Input

The first line contains single integer **T** - the number of test cases (less than 25). **T** test cases follow. Each test case contains two string **I** and **F** in two different lines, where **I** is the initial state and **F** is the final state. **I** and **F** may be equal. Their length will always be equal. Their length will be at least 2. Their length will never be more than 20.

## Output

For each test case output a single line containing the minimum number of steps required to reach the final state from the initial state. You can assume it is always possible to reach the final state from the initial state. You can assume that no answer is more than 30.

## Example

**Input:**

```
2
a_b
ab_
aba_a
_baaa
```

**Output:**

```
1
2
```

Author: [directi\\_campus \(/users/directi\\_campus\)](#)

Tags: [directi\\_campus \(/tags/problems/directi\\_campus\)](#)

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Time Limit: 1 secs

Source Limit: 50000 Bytes

Languages: C, CPP 4.3.2, CPP 6.3, CPP14, JAVA, PYTH, PYTH 3.5

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CodeChef was created as a platform to help programmers make it big in the world of algorithms, **computer programming** and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and another smaller programming challenge in the middle of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

### **Practice Section (<https://www.codechef.com/problems/easy>) - A Place to hone your 'Computer Programming Skills'**

Try your hand at one of our many practice problems and submit your solution in a language of your choice. Our **programming contest** judge accepts solutions in over 35+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

### **Compete (<https://www.codechef.com/problems/easy>) - Monthly Programming Contests and Cook-offs**

Here is where you can show off your **computer programming skills**. Take part in our 10 day long monthly coding contest and the shorter format Cook-off **coding contest**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), \$700 (for Global Community) and lots more CodeChef goodies up for grabs.

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[Contest Hosting \(http://www.codechef.com/hostsyourcontest\)](http://www.codechef.com/hostsyourcontest)  
[Problem Setting \(http://www.codechef.com/problemsetting\)](http://www.codechef.com/problemsetting)  
[CodeChef Tutorials \(http://www.codechef.com/wiki/tutorials\)](http://www.codechef.com/wiki/tutorials)  
[CodeChef Wiki \(https://www.codechef.com/wiki\)](https://www.codechef.com/wiki)

### **Practice Problems**

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[Medium \(https://www.codechef.com/problems/medium\)](https://www.codechef.com/problems/medium)  
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### **Initiatives**

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[Campus Chapters \(http://www.codechef.com/campus\\_chapter/about\)](http://www.codechef.com/campus_chapter/about)  
[Domain Registration in India \(http://www.bigrock.in/\)](http://www.bigrock.in/) and [Web Hosting \(http://www.bigrock.com/web-hosting/\)](http://www.bigrock.com/web-hosting/) powered by BigRock