Unknown Title

Description

Description

Note

Note

Editorial

Editorial

Solutions

Solutions

Submissions

Submissions

Code

Code

Testcase

Testcase

Test Result

Test Result

Leet

Leet

205. Isomorphic Strings

Easy

Topics
🔒Companies

Given two strings `s` and `t`, *determine if they are isomorphic*.

Two strings `s` and `t` are isomorphic if the characters in `s` can be replaced to get `t`.

All occurrences of a character must be replaced with another character while preserving the order of characters. No two characters may map to the same character, but a character may map to itself.

Example 1:

Input: s = "egg", t = "add"

Output: true

Explanation:

The strings `s` and `t` can be made identical by:

- Mapping `'e'` to `'a'`.
- Mapping `'g'` to `'d'`.

Example 2:

Input: s = "foo", t = "bar"

Output: false

Explanation:

The strings `s` and `t` can not be made identical as `'o'` needs to be mapped to both `'a'` and `'r'`.
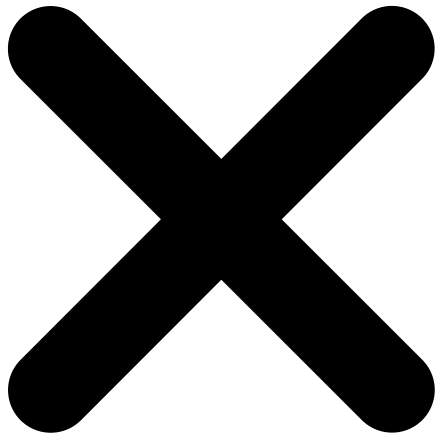
Example 3:

Input: s = "paper", t = "title"

Output: true

Constraints:

- `1 <= s.length <= 5 * 10`^{4}
- `t.length == s.length`
- `s` and `t` consist of any valid ascii character.

Seen this question in a real interview before?

1/5

Yes

No

Accepted

2,038,454/4.3M

Acceptance Rate

47.8%

Topics

⌄

Hash TableString

🔒

Companies

⌄

💬

Discussion (480)

⌄

⟨/⟩
🖼
🔗
@

💡 Discussion Rules

✕

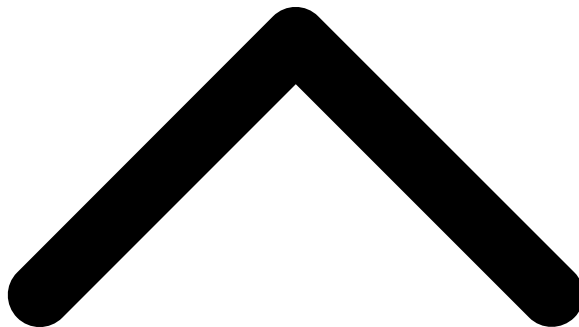1. Please don't post **any solutions** in this discussion.

2. The problem discussion is for asking questions about the problem or for sharing tips - anything except for solutions.

3. If you'd like to share your solution for feedback and ideas, please head to the solutions tab and post it there.

Ahmad Samih

May 24, 2016

I must admit, this "easy" problem confused the hell out of me :) I had hard problems solved like a breeze, but this one... gush :)

Read more

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Anyone facing issue in understanding the description of this question. You must understand the this question needs us to check if there is one directional map exist between given string and a pattern. In the given question, we can treat 's' as given string and 't' as pattern. So, essentially, we have to check if there is a one-directional map exist from 's' to 't'.

Whatever character is there in 's' is not same as in 't'. For instance, s = 'PAPER', t = 'TITLE'. If we can see, character 'E' is common between string 's' and pattern 't'. Character 'E' from string 's' is mapped to character 'L' in pattern 't'. Meanwhile, character 'E' in the pattern 't' is being mapped to character 'R' from string 's'.

string (s) pattern (t)
P   T
A   I
E   L
R   E

So, as long as, character from string 's', have only one map towards character in pattern 't', the strings are isomorphic.

^

Atiqur

Sep 28, 2023

The problem itself is very easy, but the description of isomorphic is not explained enough here, after reading so many discussion below I find the what is the meaning of isomorphic in this problem.
Lets check examples -

1. EGG -> ADD [E->A, G->D] --- true

2. FOO -> BAR [F->B, O->A|B?] --- here O has different choice either A or B ; false

3. BADC -> BABA [B->B, A->A, D->B, C-> A] --> here B has mapping to B & D so false; To think more clearly think from mapping t to s [B->B, A->A, B->D!, A->C!] now if you see from t to s then both B & A has multiple map --- false

4. PEAR -> TILE [P->T, E->I, A->L, R->E] && t to s [T->P, I->E, L->A,E->R]; so from both side no single character has to be mapped multiple value so its isomorphic -- true;

5. BBBAAABA -> AAABBBBA [B->A, A->B, 7th B->B!, 8th A->A!] --- first 6 char has no problem to map B->A, A->B but when you come to 7th B the mapping become B instead of A so its not isomorphic. --- false

6. ABC -> CAC [A->C, B->A, C-> C] && from t to s [C->A, A->B, last C->C! instead of A] so not isomorphic -- false

Conclusion: you have to map from both separately t->s && s->t ; IF any char point to two separate val then its not isomorphic.
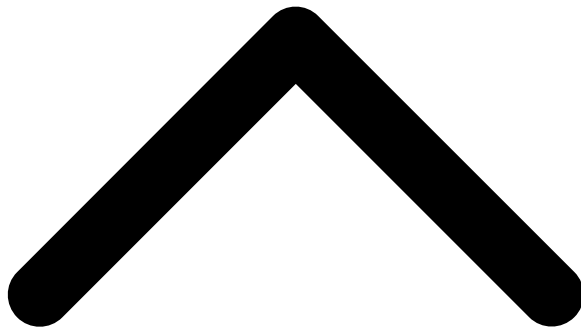
Cheers!........................

shikharLovesSolving

Oct 19, 2022

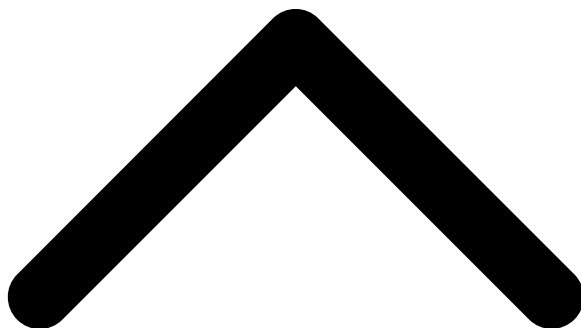i dont get why bbbaaaba and aaabbbba are not isometric can someone explain

Read more
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Keemo

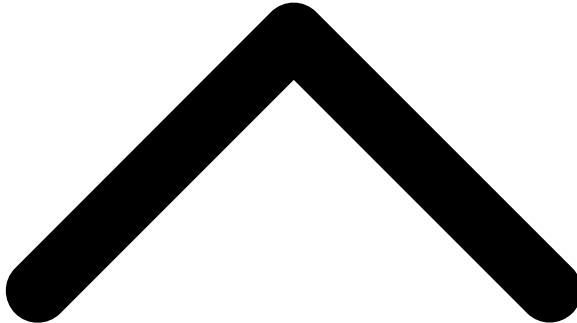Mar 03, 2024

The fuck is this question !??

Read more
⇧

111

Apr 02, 2023

This questions reads pretty badly.

Read more

80

Jun 27, 2022

How is "PAPER" and "TITLE" isomorphic?

Here is how it maps

P <=> T (P maps to T and vice versa)
A <=> I (A maps to I and vice versa)
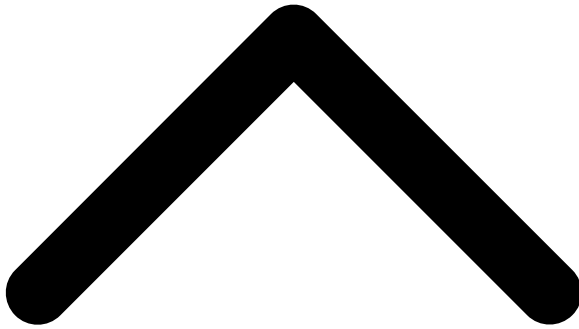E -> L (E maps to L)
but R -> E (R maps to E ??)

E and R are throwing me off.
From what i understand, PAPER and TITLE are not isomorphic.

![user avatar]

user8246tB

Nov 02, 2022

How do you even check an input like this
Test Cases:43/44

s =
"abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!"#%&'()+,-./:;<=>?@[\]^_{|}~
abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!\"#$%&'()+,-./:;<=>?*
@[\\]^_{|}~ abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!"#%&'()+,-./:;<=>?
@[\]^{|}~
abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!\"#$%&'()+,-./:;<=>?*
@[\\]^_{|}~ abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!"#%&'()+,-./:;<=>?*
@[\]^{|}~
abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!\"#$%&'()*+,-./:;<=>?
@[\\]^_{|}~
abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!"#t="b¨cdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQR
<=> @[\]^_{|}~?
\"bcdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!a#$%h'()+,-./:;<=>*
@[\\]^_{|}~?"bcdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!a#%h'()+,-./:;<=>
@[\]^{|}~?
\"bcdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!a#$%h'()+,-./:;<=>*
@[\\]^_{|}~?"bcdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!a#%h'()+,-./:;<=>*
@[\]^{|}~?
\"bcdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!a#$%h'()*+,-./:;<=>
@[\\]^_{|}?"bcdefg&ijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789!a#%h'()*+,-./:;<=>
@[\]^_`{|}?"bcdefg&ijklmnopqrstuvwxyzAB...
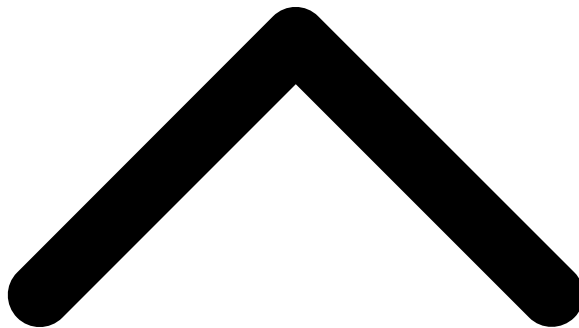43 / 44 testcases passed
Output
false

Expected
true

⌃
Read more
⇧

51

⇩
Q

6

↩

Oct 09, 2023

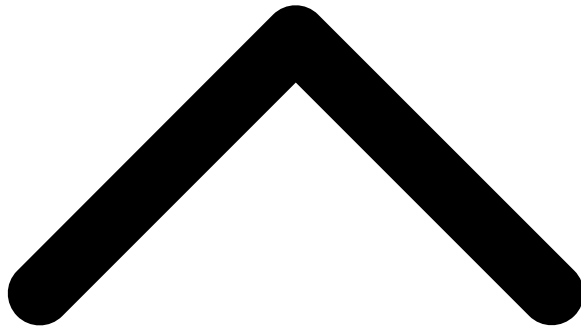Is the 44th test case valid?
"12"
"\u0067\u0067"

Read more
⇧

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Q

12

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Dec 17, 2019

By example 3 s = "paper", t = "title" are isomorphic to each other.
But why the paper is not supposed to isomorphic to tit"r"e?
or the title isomorphic to pape"l"?

Read more
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Q

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☆

73 Online

AllMy Solution

JavaC++Python3PythonJavaScriptCC#GoTypeScriptSwiftKotlinRustPHPRubyDartScalaElixirRacketPython MLErlangMySQLPostgreSQLHash TableStringArrayOrdered MapOrdered SetString MatchingHash FunctionIteratorTwo PointersMathRecursionBit ManipulationDynamic ProgrammingRolling HashSimulationCountingBinary Indexed TreeInteractiveMemoizationStackEnumerationGreedyBrainteaserHeap (Priority Queue)Bitmask

Submit at least 1 AC to publish a solution.

1K

167.7K

125

Kehe

・ Open ・

Jul 28, 2015

[Python different solutions (dictionary, etc).](#)

Python

408

63.2K

42

Hash Table

String

C++

Java

270

35.5K

8

[Andrey Timoshpolsky](#)

・ Open ・

Apr 29, 2015

[Short Java solution without maps](#)

Java

223

68.4K

34

Python

187

22.1K

28

Java

173

Editorial

136

471.7K

153

Hash Table

String

C++

Java

112

14K

6

1

2

3

4

5

```java
class Solution {
    public boolean isIsomorphic(String s, String t) {


    }
}
```

Saved

Ln 1, Col 1

You must run your code first

😎

Stuck? Leet guides you through every line.

Qwen
Qwen-Flash

⌃⌄

FindHeaderBarSize

FindTabBarSize

FindBorderBarSize