String Equivalence Relations

Question 869 of 1031

Medium

You are given three lowercase alphabet strings `a`, `b` and `target`. Strings `a` and `b` have the same length and are defined to be equivalent: `a[i] = b[i]`. For example, if `a = "abc"` and `b = "xyz"`, then `"a" = "x"`, `"b" = "y"` and `"c" = "z"`.

Also, we can make the following kinds of inferences for characters:

- `c = c`
- `a = b` implies `b = a`
- `a = b` and `b = c` implies `a = c`

Return the smallest lexicographically equivalent string for `target`.

Constraints

- `n ≤ 1,000` where `n` is the length of `a` and `b`
- `m ≤ 1,000` where `m` is the length of `target`

Example 1

Input

```
a = "axc"
b = "xdz"
target = "ddxz"
```

Output

```
"aaac"
```

Explanation

We know that `"a" = "x"` and `"x" = "d"`, so `"a" = "d"`. So we can replace the `"d"` s and `"x"` with `"a"` s. Then we can directly replace `"z"` with `"c"`.

Example 2

Input

```
a = "abc"
b = "def"
target = "xyz"
```

Output

```
"xyz"
```

Explanation

There's no inferences we can make here.

```
1 import java.util.*;
2
3 class Solution {
4     public String solve(String a, String b, String
  target) {
5
6     }
7 }
```

Solved	Attempted	Rate
178	200	89.00%

Hint #1 +