21.You are given a string s, and an array of pairs of indices in the string pairs where pairs[i] = [a, b] indicates 2 indices(0-indexed) of the string.You can swap the characters at any pair of indices in the given pairs any number of times. Return the lexicographically smallest string that s can be changed to after using the swaps.

```python
def smallestStringWithSwaps(s, pairs):
    if not s:
        return s
    n = len(s)
    parent = list(range(n))
    def find(x):
        if parent[x] != x:
            parent[x] = find(parent[x])
        return parent[x]
    def union(x, y):
        rootX = find(x)
        rootY = find(y)
        if rootX != rootY:
            parent[rootY] = rootX
    for a, b in pairs:
        union(a, b)
    from collections import defaultdict
    components = defaultdict(list)
    for i in range(n):
        root = find(i)
        components[root].append(i)
    res = list(s)
    for indices in components.values():
        chars = sorted(res[i] for i in indices)
        for i, char in zip(sorted(indices), chars):
            res[i] = char


    return ''.join(res)
s = "dcab"
pairs = [[0, 3], [1, 2], [0, 2]]
```
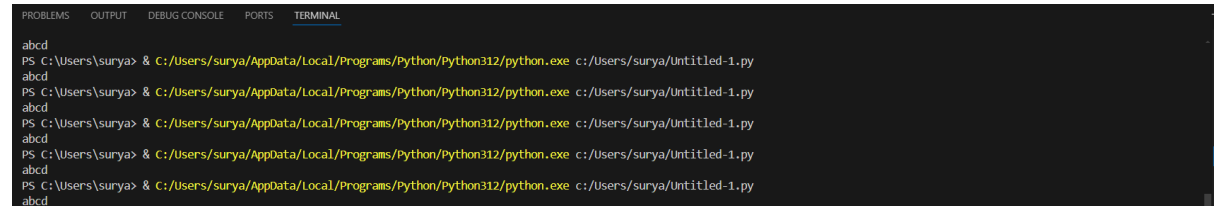
print(smallestStringWithSwaps(s, pairs))

input:dcab

TIME COMPLEXITY:O(n)

Output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    PORTS    TERMINAL

abcd
PS C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
abcd
PS C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
abcd
PS C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
abcd
PS C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
abcd
PS C:\Users\surya> & C:/Users/surya/AppData/Local/Programs/Python/Python312/python.exe c:/Users/surya/Untitled-1.py
abcd
```