🔐 LeetCode 1657 — Determine if Two Strings Are Close

📌 Problem Summary

Do strings ko **close** tab bolenge jab:

- Tum characters ko freely swap karke
- Aur characters ki frequencies ko ek dusre se swap karke

ek string ko dusri jaisi bana sako.

Allowed ops:

1. Swap any two characters (order doesn't matter)
2. Swap frequency groups (jis char ki freq X hai, usse freq Y wale char se swap kar sakte ho)

Goal: `word1` → `word2` possible? ✅ / ❌

🧠 Tumhari Logic (Bilkul correct)

> "Jitni baar frequency f first string me aai, utni baar hi second string me bhi aani chahiye."

Yani:

- Same characters presence ✅
- **freq → count-of-characters** mapping match ✅

Set se kaam nahi banta, **map chahiye** ✅

✅ Code (Your Logic)

```
class Solution {
public:
    bool closeStrings(string str1, string str2) {
```

```
        if(str1.length() != str2.length()) return false;
        unordered_map<char,int> mp1,mp2;
        for(int i=0; i<str1.length(); i++){
            mp1[str1[i]]++;
            mp2[str2[i]]++;
        }
        for(auto ele : mp1){
            if(mp2.find(ele.first) == mp2.end()) return false;
        }
        unordered_map<char,int> h1,h2;
        for(auto ele : mp1){
            h1[ele.second]++;
        }
        for(auto ele : mp2){
            h2[ele.second]++;
        }
        for(auto ele : h1){
            if(h2.find(ele.first)==h2.end())return false;
            if(h1[ele.first] != h2[ele.first])return false;
        }
        return true;
    }
};
```

🔍 Correct Example Walkthrough

```
word1 = "abbzzca"
word2 = "babzzac"
```

Frequencies

- `word1`: a→2, b→2, z→2, c→1 → freq map = {2:3 chars, 1:1 char}
- `word2`: b→2, a→2, z→2, c→1 → freq map = {2:3 chars, 1:1 char}

✅ Same characters exist

✅ freq → count mapping same

✅ Close strings

❌ Non-close Example

```
word1 = "a"
word2 = "aa"
```

Length different → impossible

🕒 Time & Space

Complexity	Value
Time	O(n)
Space	O(k)

💡 Key Takeaway

- Characters match must ✅
- Frequencies ka **pattern** match must ✅
- **freq count map** use karna is compulsory 😎
