

Non Repeating Character

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🌐 Platform	GeeksForGeeks
🔧 difficulty	Easy
🏷️ tags	Hash Map
🗣️ language	C++
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🔗 link	https://www.geeksforgeeks.org/problems/non-repeating-character-1587115620/1
✅ Completion	✔️

Intuition

The task is to find the first non-repeating character in a given string. The approach is to count the frequency of each character in the string and then iterate through the string again to find the first character with a frequency of 1. If no such character exists, return a special symbol ('\$' in this case).

Approach

- Count Frequencies:** We first count the frequency of each character in the string by iterating through it once. This is stored in an array of size 26 (for each lowercase letter 'a' to 'z').
- Find the Non-Repeating Character:** We iterate through the string again and check the frequency of each character. The first character with a frequency of 1 is the answer.
- Return '\$':** If no non-repeating character is found, we return the symbol '\$'.

Complexity

Time Complexity:

- O(n)** where **n** is the length of the string. The first loop to count the frequencies takes O(n) time, and the second loop to find the non-repeating character also takes O(n) time.

Space Complexity:

- O(1)** because the space used by the frequency array is constant, i.e., 26 elements, regardless of the input size.

Code

```
class Solution {
public:
    char nonRepeatingChar(string &s) {
        vector<int> freq(26,0);

        for(auto& ch: s)
```

```
        freq[ch-'a']++;

    for(auto& ch: s)
        if(freq[ch-'a'] == 1)
            return ch;

    return '$';
}
};
```