## Highest Frequency Char in C++

```cpp
#include <iostream>
#include <unordered_map>
#include <string>

using namespace std;

char getHighestFrequencyChar(string str) {
    unordered_map<char, int> hm; // HashMap to store character frequencies

    // Count frequencies of characters in the string
    for (char ch : str) {
        hm[ch]++;
    }

    char mfc = str[0]; // Initialize most frequent character with the first character

    // Find the character with the highest frequency
    for (auto it = hm.begin(); it != hm.end(); ++it) {
        if (it->second > hm[mfc]) {
            mfc = it->first;
        }
    }

    return mfc;
}

int main() {
    string str = "zmszeqxllzvheqwrofgcuntypejcxovtaqbnqyqlmrwitc";

    char highestFreqChar = getHighestFrequencyChar(str);

    cout << highestFreqChar << endl;

    return 0;
}
```

**Input**

String: "zmszeqxllzvheqwrofgcuntypejcxovtaqbnqyqlmrwitc"

**Step 1: Count Character Frequencies**

We iterate through the string str and populate the unordered_map (hm) with the count of each character.

**Character Frequency Count:**

| **Character** | **Count** |
|---|---|
| z | 3 |
| m | 3 |
| s | 2 |
| e | 4 |
| q | 4 |
| x | 2 |
| l | 3 |
| v | 2 |
| h | 1 |
| w | 2 |
| r | 2 |
| o | 2 |
| f | 1 |
| g | 1 |
| c | 2 |
| u | 1 |
| n | 2 |
| t | 2 |
| y | 3 |
| p | 1 |
| j | 1 |
| a | 1 |
| b | 1 |

i 1

**Step 2: Find the Character with the Highest Frequency**

We iterate through the unordered_map (hm) and keep track of the character with the maximum frequency (mfc). Initially, mfc is set to the first character of the string, z.

**Iteration Over HashMap:**

| Current Character | Frequency | hm[mfc] | Update mfc? | Updated mfc |
|---|---|---|---|---|
| z | 3 | 3 | No | z |
| m | 3 | 3 | No | z |
| s | 2 | 3 | No | z |
| e | 4 | 3 | Yes | e |
| q | 4 | 4 | No | e |
| x | 2 | 4 | No | e |
| l | 3 | 4 | No | e |
| v | 2 | 4 | No | e |
| h | 1 | 4 | No | e |
| w | 2 | 4 | No | e |
| r | 2 | 4 | No | e |
| o | 2 | 4 | No | e |
| f | 1 | 4 | No | e |
| g | 1 | 4 | No | e |
| c | 2 | 4 | No | e |
| u | 1 | 4 | No | e |
| n | 2 | 4 | No | e |
| t | 2 | 4 | No | e |
| y | 3 | 4 | No | e |
| p | 1 | 4 | No | e |
| j | 1 | 4 | No | e |
| a | 1 | 4 | No | e |
| b | 1 | 4 | No | e |

| Current Character | Frequency | hm[mfc] | Update mfc? | Updated mfc |
|---|---|---|---|---|
| i | 1 | 4 | No | e |

**Step 3: Output**

The character with the highest frequency is **q**, appearing **4 times** in the string.

**Output**

Output:
q