

## Highest Frequency Char in C++

```
#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 =
    "zmszeqxllzvheqwrofgcuntypejcxovtaqbnqyqlmrwit
    c";

    char highestFreqChar =
    getHighestFrequencyChar(str);

    cout << highestFreqChar << endl;

    return 0;
}
```

**Input**

String:  
"zmszeqxllzvheqwrofgcuntypejcxovtaqbnqyqlmrwite"

### 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>Current Character</b>	<b>Frequency</b>	<b>hm[mfc]</b>	<b>Update mfc?</b>	<b>Updated mfc</b>
	b	1	4	No	e
	i	1	4	No	e
<div><b>Step 3: Output</b></div> <div>The character with the highest frequency is <b>q</b>, appearing <b>4 times</b> in the string.</div> <div><b>Output</b></div>					
<div>Output:</div> <div>q</div>					