Check for Palindrome in Cpp

A palindrome is a word, phrase, number, or other sequences of characters which reads the same forward and backward (ignoring spaces, punctuation, and capitalization). In this article, we'll discuss how to check if a given string is a palindrome or not in C++.

Method 1: Using Iterators One approach to check if a string is a palindrome is to use iterators to iterate over the characters in the string and compare them. Here's an example of how to use iterators to check if a string is a palindrome:

```cpp
#include <iostream>
#include <string>
using namespace std;

bool isPalindrome(string input) {
    string::iterator begin = input.begin();
    string::iterator end = input.end() - 1;
    while (begin < end) {
        if (*begin != *end) {
            return false;
        }
        begin++;
        end--;
    }
    return true;
}

int main() {
    string input;
    cout << "Enter a string: ";
    cin >> input;
    if (isPalindrome(input)) {
        cout << input << " is a palindrome" << endl;
    } else {
        cout << input << " is not a palindrome" << endl;
    }
```

```
        return 0;
    }
```

In this example, the **isPalindrome()** function takes a string as input and uses iterators to iterate over the characters in the string from both the beginning and the end. It compares the characters at each position, and if any pair of characters is not equal, it returns false, indicating that the string is not a palindrome. If the function completes the iteration and all pairs of characters are equal, it returns true, indicating that the string is a palindrome.

Method 2: Using the **string.rbegin()** and **string.rend()** function Another approach to check if a string is a palindrome is to use the **string.rbegin()** and **string.rend()** function. This will give you the reverse iterator to the beginning and end of the string respectively.

```cpp
#include <iostream>
#include <string>
using namespace std;

bool isPalindrome(string input) {
    for (int i = 0; i < input.length(); i++) {
        if(input[i] != input[input.length() - i - 1])
            return false;
    }
    return true;
}

int main() {
    string input;
    cout << "Enter a string: ";
    cin >> input;
    if (isPalindrome(input)) {
        cout << input << " is a palindrome" << endl;
    } else {
        cout << input << " is not a palindrome" << endl;
    }
    return 0;
}
```