C++ continue Statement

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In this tutorial, we will learn about the continue statement and its working with loops with the help of examples.

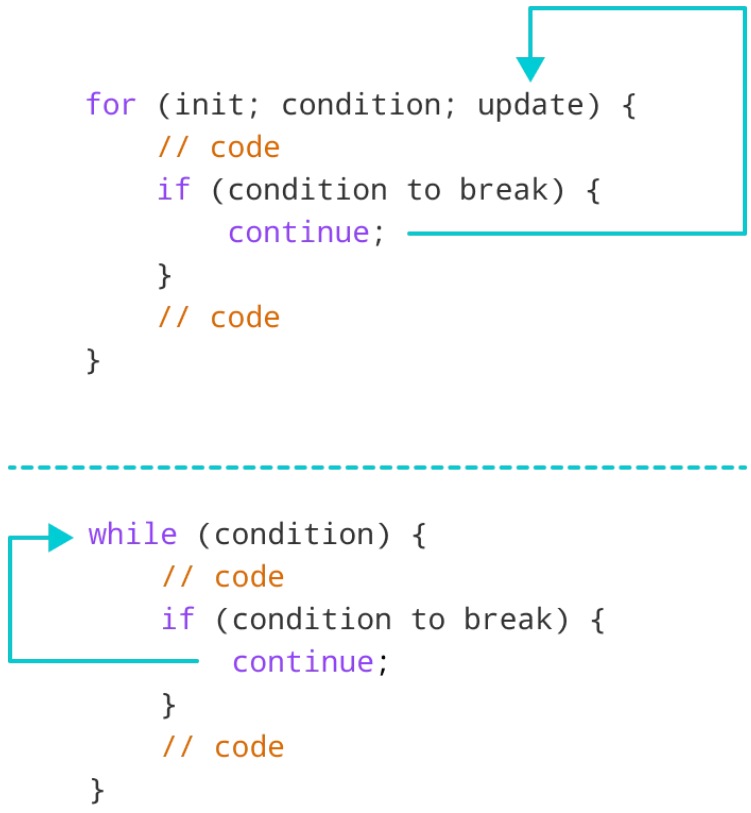
In computer programming, the `continue` statement is used to skip the current iteration of the loop and the control of the program goes to the next iteration.

The syntax of the `continue` statement is:

```
continue;
```

Before you learn about the continue statement, make sure you know about,

Working of C++ continue Statement



Working of continue statement in C++

Example 1: continue with for loop

In a `for` loop, `continue` skips the current iteration and the control flow jumps to the `update` expression.

```
// program to print the value of i

#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 5; i++) {
        // condition to continue
        if (i == 3) {
            continue;
        }

        cout << i << endl;
    }

    return 0;
}
```

Output

```
1
2
4
5
```

In the above program, we have used the the `for` loop to print the value of *i* in each iteration. Here, notice the code,

```
if (i == 3) {
    continue;
}
```

This means

- When *i* is equal to `3`, the `continue` statement skips the current iteration and starts the next iteration
- Then, *i* becomes `4`, and the `condition` is evaluated again.
- Hence, `4` and `5` are printed in the next two iterations.

Note: The `continue` statement is almost always used with decision-making statements.

Example 2: continue with while loop

In a `while` loop, `continue` skips the current iteration and control flow of the program jumps back to the `while` `condition`.

```
// program to calculate positive numbers till 50 only
// if the user enters a negative number,
// that number is skipped from the calculation

// negative number -> loop terminate
// numbers above 50 -> skip iteration

#include <iostream>
using namespace std;

int main() {
    int sum = 0;
    int number = 0;

    while (number >= 0) {
        // add all positive numbers
        sum += number;

        // take input from the user
        cout << "Enter a number: ";
        cin >> number;

        // continue condition
        if (number > 50) {
            cout << "The number is greater than 50 and won't be calculated." <<
endl;
            number = 0;  // the value of number is made 0 again
            continue;
        }
    }

    // display the sum
    cout << "The sum is " << sum << endl;

    return 0;
}
```

Output

```
Enter a number: 12
Enter a number: 0
Enter a number: 2
Enter a number: 30
Enter a number: 50
Enter a number: 56
The number is greater than 50 and won't be calculated.
Enter a number: 5
Enter a number: -3
The sum is 99
```

In the above program, the user enters a number. The `while` loop is used to print the total sum of positive numbers entered by the user, as long as the numbers entered are not greater than `50`.

Notice the use of the `continue` statement.

```
 if (number > 50){
    continue;
}
```

- When the user enters a number greater than `50`, the `continue` statement skips the current iteration. Then the control flow of the program goes to the `condition` of `while` loop.
- When the user enters a number less than `0`, the loop terminates.

Note: The `continue` statement works in the same way for the `do...while` loops.

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continue with Nested loop

When `continue` is used with nested loops, it skips the current iteration of the inner loop. For example,

```
// using continue statement inside
// nested for loop

#include <iostream>
using namespace std;

int main() {
    int number;
    int sum = 0;

    // nested for loops

    // first loop
    for (int i = 1; i <= 3; i++) {
        // second loop
        for (int j = 1; j <= 3; j++) {
            if (j == 2) {
                continue;
            }
            cout << "i = " << i << ", j = " << j << endl;
        }
    }

    return 0;
}
```

Output

```
i = 1, j = 1
i = 1, j = 3
i = 2, j = 1
i = 2, j = 3
i = 3, j = 1
i = 3, j = 3
```

In the above program, when the `continue` statement executes, it skips the current iteration in the inner loop. And the control of the program moves to the **update expression** of the inner loop.

Hence, the value of `j = 2` is never displayed in the output.

Note: The break statement terminates the loop entirely. However, the `continue` statement only skips the current iteration.