C++ break Statement

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

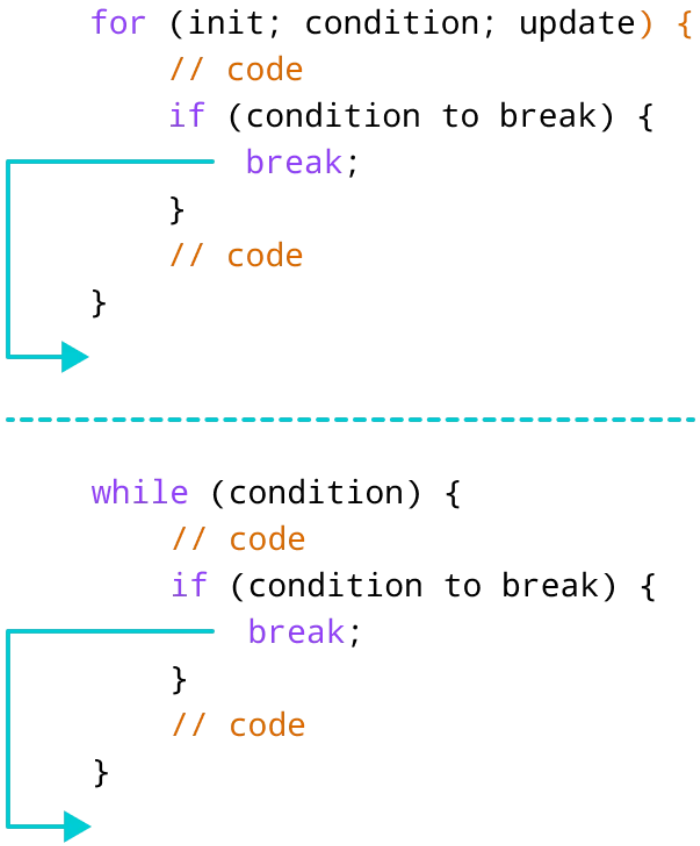
In C++, the `break` statement terminates the loop when it is encountered.

The syntax of the `break` statement is:

```
break;
```

Before you learn about the `break` statement, make sure you know about:

Working of C++ break Statement



Working of break statement in C++

Example 1: break with for loop

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

#include <iostream>
using namespace std;

int main() {
    for (int i = 1; i <= 5; i++) {
        // break condition
        if (i == 3) {
            break;
        }
        cout << i << endl;
    }

return 0;
}
```

Output

```
1
2
```

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

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

This means, when *i* is equal to **3**, the `break` statement terminates the loop. Hence, the output doesn't include values greater than or equal to 3.

Note: The `break` statement is usually used with decision-making statements.

Example 2: break with while loop

```
// program to find the sum of positive numbers
// if the user enters a negative numbers, break ends the loop
// the negative number entered is not added to sum

#include <iostream>
using namespace std;

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

    while (true) {
        // take input from the user
        cout << "Enter a number: ";
        cin >> number;

        // break condition
        if (number < 0) {
            break;
        }

        // add all positive numbers
        sum += number;
    }

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

    return 0;
}
```

Output

```
Enter a number: 1
Enter a number: 2
Enter a number: 3
Enter a number: -5
The sum is 6.
```

In the above program, the user enters a number. The `while` loop is used to print the total sum of numbers entered by the user. Here, notice the code,

```
if(number < 0) {
    break;
}
```

This means, when the user enters a negative number, the `break` statement terminates the loop and codes outside the loop are executed.

The `while` loop continues until the user enters a negative number.

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break with Nested loop

When `break` is used with nested loops, `break` terminates the inner loop. For example,

```
// using break 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 (i == 2) {
                break;
            }
            cout << "i = " << i << ", j = " << j << endl;
        }
    }

    return 0;
}
```

Output

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

In the above program, the `break` statement is executed when `i == 2`. It terminates the inner loop, and the control flow of the program moves to the outer loop.

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

The `break` statement is also used with the `switch` statement. To learn more, visit C++ switch statement.