30/09/2019 C break and continue





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C break and continue

We learned about loops in previous tutorials. In this tutorial, we will learn to use break and continue statements with the help of examples.

C break

The break statement ends the loop immediately when it is encountered. Its syntax is:

break;

The break statement is almost always used with if...else statement inside the loop.

How break statement works?

break;

```
while (testExpression) {
    // codes
    if (condition to break) {
        break;
    }
    // codes
}

for (init; testExpression; update) {
        // codes
    if (condition to break) {
        break;
    }
    // codes
    if (condition to break) {
        // codes
        if (condition to break) {
        // codes
        if (condition to break) {
        // codes
        if (condition to break) {
        // codes
        // codes
        if (condition to break) {
        // codes
        // codes
```

```
Example 1: break statement
```

}

// codes

```
// Program to calculate the sum of a maximum of 10 numbers
// If a negative number is entered, the loop terminates
# include <stdio.h>
int main()
     int i;
     double number, sum = 0.0;
     for(i=1; i <= 10; ++i)</pre>
          printf("Enter a n%d: ",i);
          scanf("%lf",&number);
          // If the user enters a negative number, the loop ends
          if(number < 0.0)
          {
                break;
          }
          sum += number; // sum = sum + number;
     }
     printf("Sum = %.21f",sum);
     return 0;
}
```

Contents

Output

C break and continue

```
Enter a n1: 2.4
Enter a n2: 4.5
Enter a n3: 3.4
Enter a n4: -3
Sum = 10.30
```

This program calculates the sum of a maximum of 10 numbers. Why a maximum of 10 numbers? It's because if the user enters a negative number, the <code>break</code> statement is executed. This will end the <code>for</code> loop, and the <code>sum</code> is displayed.

In C, break is also used with the switch statement. This will be discussed in the next tutorial.

C continue

The continue statement skips the current iteration of the loop and continues with the next iteration. Its syntax is:

```
continue;
```

The continue statement is almost always used with the if...else statement.

How continue statement works?

```
do {
➤ while (testExpression) {
                                     // codes
     // codes
                                     if (testExpression) {
     if (testExpression) {
                                       -continue;
                                     }
      continue;
     }
                                     // codes
     // codes
                                while (testExpression);
  }
      for (init; testExpression; update) {
            // codes
            if (testExpression) {
               — continue;
           }
           // codes
        }
```

Example 2: continue statement

```
// Program to calculate the sum of a maximum of 10 numbers
// Negative numbers are skipped from the calculation
# include <stdio.h>
int main()
     int i;
     double number, sum = 0.0;
     for(i=1; i <= 10; ++i)</pre>
     {
           printf("Enter a n%d: ",i);
           scanf("%lf",&number);
           if(number < 0.0)</pre>
           {
                continue;
           }
           sum += number; // sum = sum + number;
     }
     printf("Sum = %.21f",sum);
     return 0;
}
```

Output

30/09/2019

Contents

```
Enter a n1: 1.1
Enter a n2: 2.2
Enter a n3: 5.5
Enter a n4: 4.4
Enter a n5: -3.4
Enter a n6: -45.5
Enter a n7: 34.5
Enter a n8: -4.2
Enter a n9: -1000
Enter a n10: 12
Sum = 59.70
```

In this program, when the user enters a positive number, the sum is calculated using sum += number; statement.

When the user enters a negative number, the continue statement is executed and it skips the negative number from the calculation.

PREVIOUS

C WHILE LOOP

NEXT C SWITCH..CASE

C Programming

C Introduction

C Flow Control

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C if...else

C for Loop

C while Loop

C break and continue

Contents

C switch...case

C Programming goto

Control Flow Examples

C Functions

C Programming Arrays

C Programming Pointers

C Programming Strings

Structure And Union

C Programming Files

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DSA

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Python Examples

C Examples

Java Examples

Kotlin Examples

C++ Examples

R Examples

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