

Jump Statements

In this lesson jump statements such as break, continue, return and throw will be discussed in detail

WE'LL COVER THE FOLLOWING ^

- break
- continue
- return
- throw

A **jump statement** can be used to transfer program control using keywords such as `break`, `continue`, `return`, and `throw`.

break

A `break` statement is used to **exit** from a case in a `switch` statement and also used to **exit** from

- `for`
- `foreach`
- `while`
- `do-while`

loops that will *switch* the control to the statement immediately after the **end** of the loop.

```
using System;

public class BreakExample
{
    static void Main()
    {
        int i;

        for (i = 0; i < 10; i++) // see the comparison, i < 10
        {
```



```

    if (i >= 3)
    {
        break;
        // Not run over the code, and get out of loop.
        // Note: The rest of code will not be executed,
        // & it leaves the loop instantly
    }
}
// Here check the value of i, it will be 3, not 10.
Console.WriteLine("The value of i is: {0}", i);
}
}

```



Break Example

continue

The **continue** keyword transfers program control just **before** the *end* of a *loop*.

- The **condition** for the loop is then checked
- If it is met, the *loop* performs another iteration

```

using System;

class ContinueExample
{
    static void Main()
    {
        int counter = 0;

        for (int i = 0; i < 10; i++)
        {
            if (i >= 5)
            {
                continue; // Not run over the code, and return to the beginning
                           // of the scope as if it had completed the loop
            }
            counter += 1;
        }
        // Here check the value of counter, it will be 5, not 10.
        Console.WriteLine("The value of counter is: {0}", counter);
    }
}

```



Continue Example

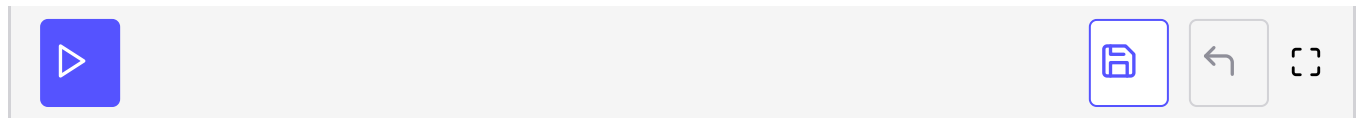
return

The `return` keyword identifies the **return** value for the *function* or *method* (if any), and transfers control to the end of the *function*.

Note: Run the code below first. See the output, after that uncomment **line 13** in code widget below and run the code again.

```
using System;

class returnExample
{
    static int Main()
    {
        int num1 = 2;
        int num2 = 3;
        int answer = num1+num2; //computing sum of num1 and num2
        Console.WriteLine("value of answer is: {0}",answer);
        return answer; // the code terminates here from this function
        //when you uncomment the line below and run the code you'll get an "unreachable code" error
        //answer = 9; // here is a block that will not be executed
    }
}
```



When you run the code above:

- it will display the value of `answer` as 5 in the console.

When you run the code above after **uncommenting line 13**:

- it will display the value of `answer` as 5 in the console.
- the code will also give an **Error**, “**Unreachable code detected**”, because the function is calling `return` statement before line 13 hence it stops executing after the `answer` is returned.

throw

The `throw` keyword throws an **exception**.

- If it is located within a `try` block, it will transfer the control to a `catch` block that matches the **exception**.

- Otherwise, it will check if any *calling* functions are contained within the matching **catch** block and transfer execution there.
- If no functions contain a **catch** block, the program may terminate because of an *unhandled* exception.

```
using System;

class throwExample
{
    static void Main()
    {
        int num1=10;
        int num2 =0;
        int result=0;
        try
        {
            result = num1/num2; //divinding by 0
        }
        catch(DivideByZeroException e)
        {
            Console.WriteLine("Exception caught: {0}", e); //exception will be caught
        }
    }
}
```



throw Example

This marks the end of this *chapter*. In the next, we will learn about **methods** in **C#**.