C# Out Parameter with Examples

In c#, **out** keyword is used to pass arguments to the method as a reference type (/tutorial/csharp/csharp-pass-by-reference-ref-with-examples). The `out` keyword same as the `ref` keyword, but the only difference is `out` doesn't require a variable to be initialized before we pass it as an argument to the method. Still, the variable (/tutorial/csharp/csharp-variables-with-examples) must be initialized in called method before it returns a value to the calling method.

The out parameter in c# is also useful to return more than one value from the methods in the c# programming language.

Declaration of C# Out Parameter

Following is a simple example of using `out` parameters in c# programming language.

```
int x; // No need to initialize the variable
Multiplication(out x);
```

If you observe the above declaration, we just declared a variable **x** and passed it to the method using `out` parameter without assigning any value. Still, as discussed, the variable must be initialized in called method before it returns a value to the calling method.

To use `out` parameter in the c# application, both the method definition and the calling method must explicitly use the `out` keyword.

C# Out Parameter Example

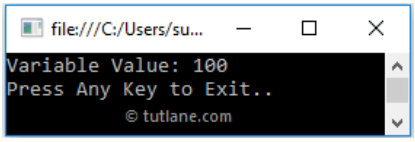
Following is the example of passing an `out` parameter to the method in the c# programming language.

```
using System;

namespace Tutlane
{
    class Program
    {
        static void Main(string[] args)
        {
            int x;
            Multiplication(out x);
            Console.WriteLine("Variable Value: {0}", x);
            Console.WriteLine("Press Enter Key to Exit..");
            Console.ReadLine();
        }
        public static void Multiplication(out int a)
        {
            a = 10;
            a *= a;
        }
    }
}
```

If you observe the above example, we declared a variable **x** and passed it to a **Multiplication** method by using `out` keyword without initializing the value. However, the called method (**Multiplication**) is initializing the value before returning the value to the calling method.

When we execute the above c# program, we will get the result below.



If you observe the above result, the changes we did for a variable in the **Multiplication** method have also reflected the calling method.

C# Multiple Out Parameters Example

Following is the example of using multiple `out` parameters in the c# programming language.

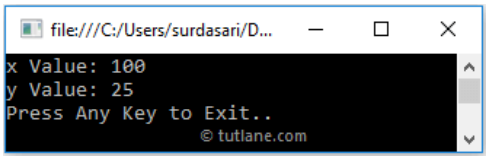
```
using System;

namespace Tutlane
{
```

```
    class Program
    {
       static void Main(string[] args)
       {
           int x, y;
           Multiplication(out x, out y);
           Console.WriteLine("x Value: {0}", x);
           Console.WriteLine("y Value: {0}", y);
           Console.WriteLine("Press Enter Key to Exit..");
           Console.ReadLine();
       }
       public static void Multiplication(out int a, out int b)
       {
           a = 10;
           b = 5;
           a *= a;
           b *= b;
       }
    }
}
```

If you observe the above example, we defined two variables (x, y) and passed them to the **Multiplication** method using `out` parameters.

When we execute the above c# program, we will get the result below.



If you observe the above result, the changes we did for variables in the **Multiplication** method have also been reflected in the calling method.

This is how we can use `out` parameter in c# programming language to pass arguments to the method as a reference type in c# programming language based on our requirements.

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