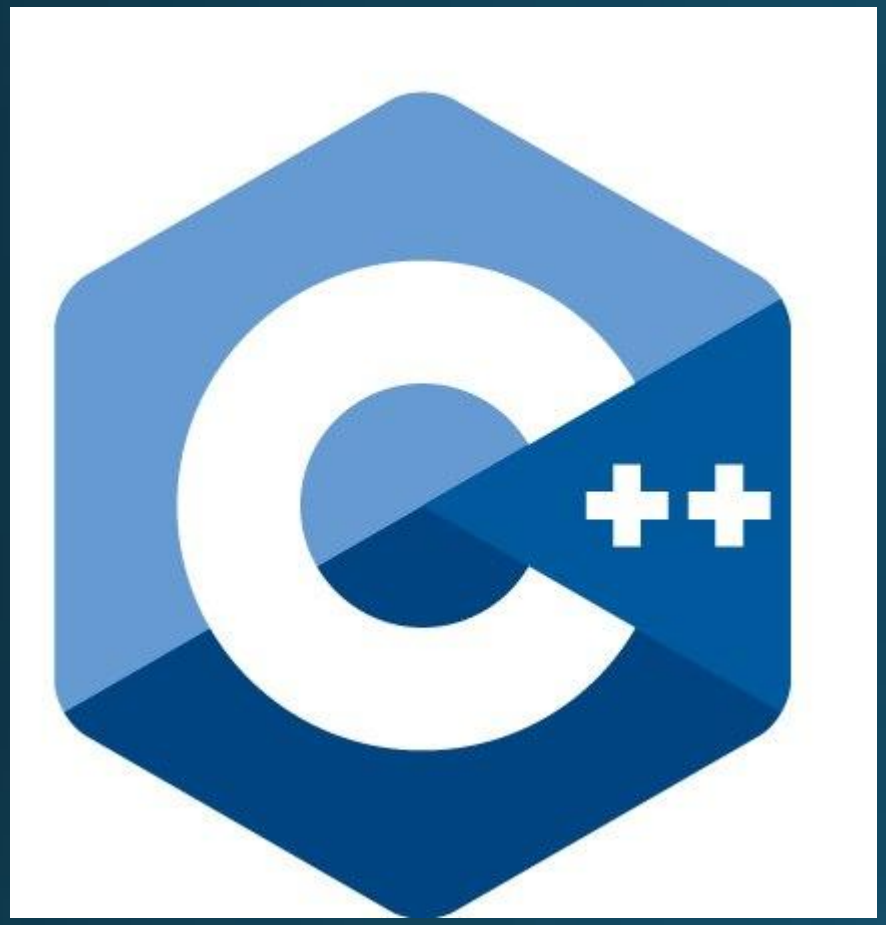


Created by Martyukov D.S. group 551

C Sharp (C#)

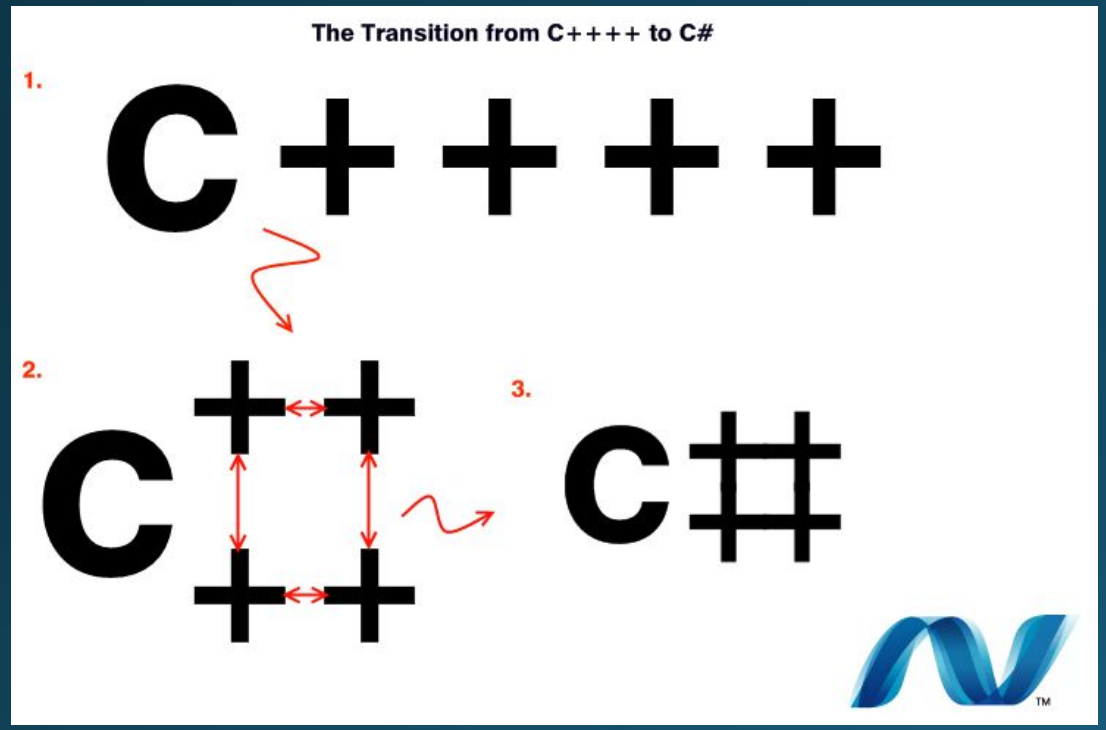
C#

- C# is a general-purpose, object-oriented programming language. It was developed by Microsoft within its .NET initiative.

Name

- The name "C sharp" was inspired by musical notation where a sharp indicates that the written note should be made a semitone higher.

Name

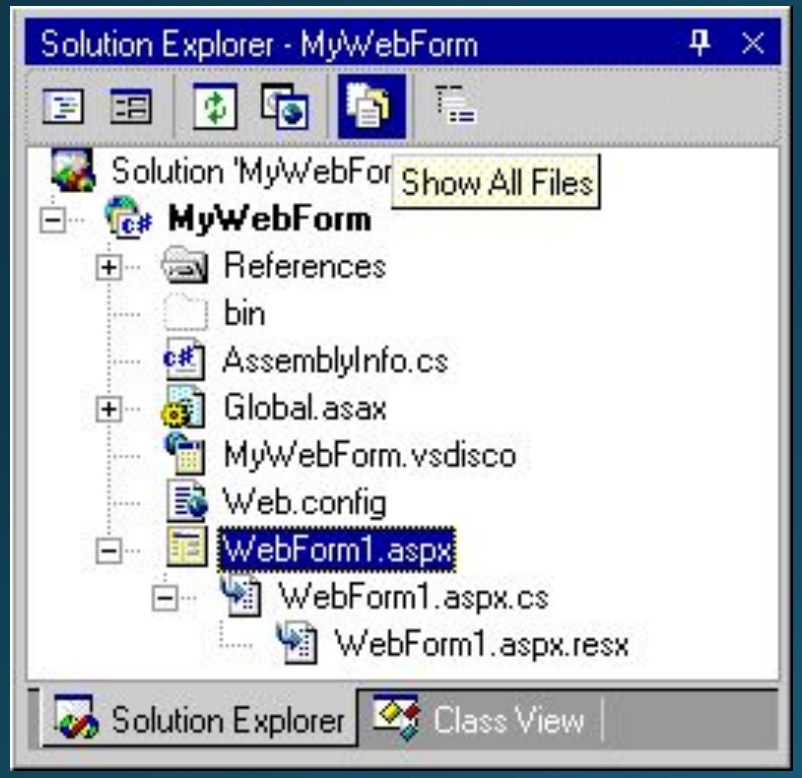


- This is similar to the language name of C++. The sharp symbol also like a ligature of four "+" symbols, which means that the language is an increment of C++.

OOP

- **Object-oriented programming** (**OOP**) is a programming paradigm based on the concept of "objects", which may contain data and code.

General Structure



- C# programs can consist of one or more files. Each file can contain zero or more namespaces.

```
// A skeleton of a C# program
using System;
namespace YourNamespace
{
    class YourClass
    {
    }

    struct YourStruct
    {
    }

    interface IYourInterface
    {
    }

    delegate int YourDelegate();

    enum YourEnum
    {
    }

    namespace YourNestedNamespace
    {
        struct YourStruct
        {
        }
    }

    class YourMainClass
    {
        static void Main(string[] args)
        {
            //Your program starts here...
        }
    }
}
```

General Structure

- A namespace can contain types such as classes, structs, interfaces, enumerations, delegates and other namespaces.

Namespaces

```
C#

System.Console.WriteLine("Hello World!");
```

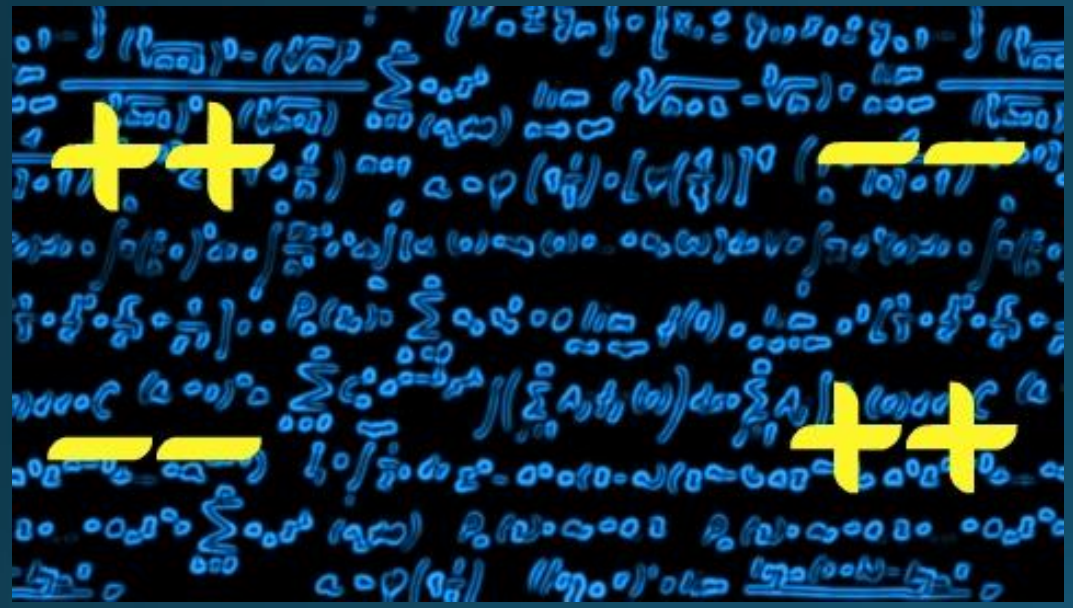
- Namespaces are heavily used in C# programming in two ways. First, the .NET Framework uses namespaces to organize its many classes.

Namespaces

```C#
namespace SampleNamespace
{
    class SampleClass
    {
        public void SampleMethod()
        {
            System.Console.WriteLine(
              "SampleMethod inside SampleNamespace");
        }
    }
}
```

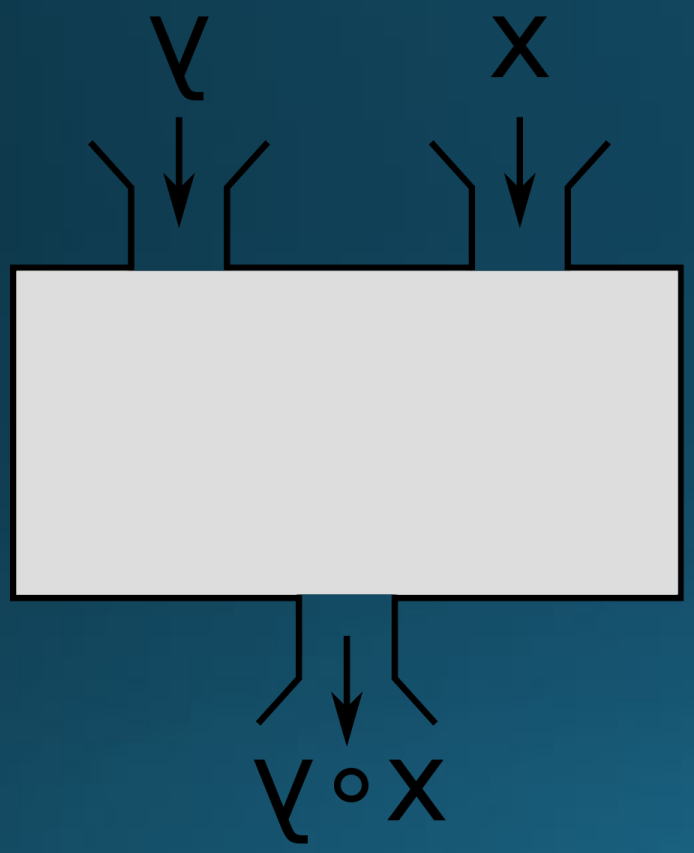
- Second, declaring your own namespaces can help you control the scope of class and method names.

Operators



- In C#, an *operator* is a program element that is applied to one or more *operands* in an expression. Operators that take one operand are named to as *unary* operators.

Operators



- Operators that take two operands are named to as *binary* operators.

list of sources used:

- https://en.wikipedia.org
- https://docs.microsoft.com