C# Overview

C# is a modern, general–purpose, object–oriented programming language developed by **Microsoft and** approved by **European Computer Manufacturers Association (ECMA) and International Standards Organization (ISO).**

C# was developed by **Anders Hejlsberg** and his team during the development of **.Net Framework.**

C# is designed **for Common Language Infrastructure (CLI)**, which consists of the executable code and runtime environment that allows use of various high–level languages on different computer platforms and architectures.

The following reasons make C# a widely used professional language

- It is a modern, general–purpose programming language
- It is object oriented.
- It is component oriented.
- It is easy to learn.
- It is a structured language.
- It produces efficient programs.
- It can be compiled on a variety of computer platforms.
- It is a part of .Net Framework.

Strong Programming Features of C#

Although **C#** constructs closely follow traditional **high–level** languages**, C and C++** and being an **object–oriented** programming language. It has strong resemblance with **Java**, it has numerous strong programming features that make it endearing to a number of programmers worldwide

Following is the list of few important features of C#

- Boolean Conditions
- Automatic Garbage Collection
- Standard Library
- Assembly Versioning
- Properties and Events
- Delegates and Events Management

- Easy-to-use Generics
- Indexers
- Conditional Compilation
- Simple Multithreading
- LINQ and Lambda Expressions
- Integration with Windows

The .Net Framework

We have already mentioned that C# is part of .Net framework and is used for writing .Net applications. Therefore, before discussing the available tools for running a C# program, let us understand how C# relates to the .Net framework.

The **.Net framewor**k is a revolutionary platform that helps you to write the following types of applications:

- Windows applications
- Web applications
- Web services

The **.Net framework** applications are multi-platform applications. The framework has been designed in such a way that it can be used from any of the following languages:

- **C#**
- **C++**
- **Visual Basic**
- **Jscript**
- **COBOL,** etc.

All these languages can access the framework as well as communicate with each other.

The **.Net framework** consists of an enormous library of codes used by the client languages such as C#.

Following are some of the components of the **.Net framework**:

- Common Language Runtime (CLR)
- The .Net Framework Class Library
- Common Language Specification
- Common Type System
- Metadata and Assemblies
- Windows Forms

- ASP.Net and ASP.Net AJAX
- ADO.Net
- Windows Workflow Foundation (WF)
- Windows Presentation Foundation
- Windows Communication Foundation (WCF)
- LINQ