**INTRODUCTION TO C SHARP PROGRAMMING LANGUAGE**

Microsoft introduced a new language called C# (pronounced C Sharp). C# is designed to be a simple, modern, general-purpose, object-oriented programming language, borrowing key concepts from several other languages, most notably Java.

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

C# is a part of .NET Framework and currently in version 4.6.2.

**WE CAN USE C# FOR BUILDING VARIETY OF APPLICATIONS.**

* **WINDOWS APPLICATION:** using console application or winform application.
* **MOBILE APPLICATIONS:** for phones such as Nokia Lumia (built-in support) but we can use a third party tool or library called “XAMARIN” to create mobile applications for ANDROID and IOS as well.
* **WEB APPLICATON:** using ASP.NET web forms or ASP.NET MVC.
* **GAMING APPLICATION:** Unity.

C# could theoretically be compiled to machine code, but in real life, it's always used in combination with the .NET framework. Therefore, applications written in C#, requires the .NET framework to be installed on the computer running the application. While the .NET framework makes it possible to use a wide range of languages, C# is sometimes referred to as THE .NET language, perhaps because it was designed together with the framework.

Language interoperability is the ability of code to interact with code that is written by using a different programming language.

**WHAT IS .NET FRAMEWORK**

* .NET is a programming framework created by Microsoft that developers can use to create applications more easily. A framework is just a bunch of code that the programmer can call without having to write it explicitly.
* It provides a controlled programming environment where software can be developed, installed and executed on Windows-based operating systems.
* It is basically a collection of libraries.
* Is a programming platform that is used for developing Windows, Web-based, and mobile software.
* It has a number of pre-coded solutions that manage the execution of programs written specifically for the framework.
* A programmer can develop applications using one of the languages supported by .NET.
* Microsoft introduced C# as a new programming language to address the problems posed by traditional languages.

**MICROSOFT C# WAS DEVELOPED TO:**

* Create a very simple and yet powerful tool for building interoperable and robust applications.
* Create a complete object-oriented architecture.
* Support powerful component-oriented development.
* Allow access to many features previously available only in C++ while retaining the ease-of-use of a rapid application development tool such as Visual Basic.
* Provide familiarity to programmers coming from C or C++ background.
* Allow to write applications that target both desktop and mobile devices.
* C# has features common to most object-oriented languages.
* It has language-specific features, such as:
  + Type safety checking
  + Generics
  + Indexers
* These features make the C# as a preferred language to create a wide variety of applications.
* C# is a programming language designed for building a wide range of applications that run on the .NET Framework.

**WHAT IS NAMESPACE**

A namespace is used to organize your code and is collection of classes, interfaces, structs, enums and delegates.

NOTE: IF U DON’T WANT TO USE NAMESPACE YOU CAN USE FULLY QUALIFIED NAME (FQN).

**WHAT IS MAIN METHOD**

Main method is the entry point into your application.