**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 of your application.