

# C# COURSE NOTES

Lesson 002 - What is C# and How It Works

(English Edition)

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## ABOUT THE BOOKLET

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<https://github.com/macesgamesstudios/c-sharp-notes>

## What is C# and How It Works

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Hello everyone again, today is the second lesson of our education "Hello World!" We are with you again with the title. The topic of our lesson today is the features of the C # language, I will take the basic topics such as language family. I hope you can understand something from what I have been telling. Of course, there is one more thing I want to mention before continuing our series, it is difficult for you to be a professional or advanced software developer based on the data I will tell in this series. Therefore, it is more useful to use this place as reminder notes such as the use of codes instead of C # learning notes from 0. Also, towards the end of the series, I have the idea to collect all these notes and make a big PDF notebook. I hope you come to the places you want and you will always be happy. Then let's move on to our topics without much ado.

### 1.1 : What Exactly Is C # and How Does It Work?

It uses the .NET ecosystem on the basis of C #, a member of the C family. It has quite similarities and differences with languages such as C, C ++, Java and Java Script, which are similar to other languages. If you are in a good position in other languages, I cannot say that you will have a hard time in C #. To talk a little more scientifically, we need to use the phrase C # is an object-oriented, component-managed language. Let's examine the object oriented programming language and component managed concepts.

Object Oriented Programming (OOP) languages are the collection of data such as the color, size and length of more than one object under a class. Of course, these are specified in more detail in the software language, we can give examples such as variables for colors, methods for dimensions. The concept of class actually means grouping. The concept of object can be given as an example of concepts that store data and store these data within itself.

Component Oriented Software Engineering (COSE), on the other hand, is the customization effort that emerges according to the needs of programming languages to be more simple, pure and understandable. This concept is a concept that emerged at the end of the 1960s.

### 1.2 : What is .NET and .NET Architecture

.NET Architecture was announced by Microsoft on February 13, 2002 for the first time and has been developed and continues to be developed until today. NET Ecosystem is actually called .NET Framework (.NET Framework). In fact, to summarize briefly, the .NET Framework provides the libraries required for the working of coding languages. In this way, programming languages can easily benefit from this data and interact with users. C # programming language also gets help from the .NET Framework framework and can be faster and simpler with the help of these libraries. NET Framework, which is always updated, is the basis of most programming languages today.

### 1.3 : Uses of C # Programming Language

The C # programming language, which is used in many areas today, serves in many areas such as Web Applications (Asp.NET), Mobile Applications (Xamarin), Web Services Applications, Console Applications, DLL Applications, Windows Form Applications, Digital Game Making.

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### 1.4 : C# and Visual Studio

Of course, we need certain programs to write code with C#. Editors that let us write code are called IDEs. If we give examples of this, it is considered an IDE in Visual Studio. Developed by Microsoft, the developer of C#, and the most used IDE for C# is undoubtedly the Visual Studio series. The Visual Studio family, which first entered our lives with the name of Visual Studio 97 on March 19, 1997, continues today with Visual Studio 2019.

#### Visual Studio Family and Release Dates

(Source - [Wikipedia.ORG](https://en.wikipedia.org/wiki/Microsoft_Visual_Studio));

Visual Studio 97 – 19 March 1997

Visual Studio 6.0 – 02 September 1998

Visual Studio 2002 – 13 February 2002

Visual Studio 2003 – 24 April 2002

Visual Studio 2005 – 07 December 2005

Visual Studio 2008 – 19 December 2007

Visual Studio 2010 – 12 April 2010

Visual Studio 2012 – 12 September 2012

Visual Studio 2013 – 17 October 2013

Visual Studio 2015 – 20 July 2015

Visual Studio 2017 – 07 March 2017

Visual Studio 2019 – 02 April 2019

Visual Studio 2021 – Çıkış Tarihi Belirli Değil

### 1.5 : .NET SDK Installation

Of course, our C# codes may not run automatically on every computer. The reason for this is that the required .NET Core or .NET Framework version used by C# is not installed on the computer. For this reason, we need to install the .NET version that we have created our project on the computer to be used before publishing our application. We need to integrate all .NET SDK versions into the setup that we will publish from the link here (<https://dotnet.microsoft.com/download/visual-studio-sdks>).

Today, we have briefly examined C# and .NET principles and their usage areas. See you in better days. Have a nice day.