**C# Comments**

In this article, we will learn about C# comments, different style of comments, and why and how to use them in a program.

Comments are used in a program to help us understand a piece of code. They are human readable words intended to make the code readable. Comments are completely ignored by the compiler.

In C#, there are 3 types of comments:

1. Single Line Comments (//)
2. Multi Line Comments (/\* \*/)
3. XML Comments (///)

**Single Line Comments**

Single line comments start with a double slash //. The compiler ignores everything after // to the end of the line. For example,

int a = 5 + 7; // Adding 5 and 7

Here, Adding 5 and 7 is the comment.

**Example 1: Using single line comment**

// Hello World Program

using System;

namespace HelloWorld

{

class Program

{

public static void Main(string[] args) // Execution Starts from Main method

{

// Prints Hello World

Console.WriteLine("Hello World!");

}

}

}

The above program contains 3 single line comments:

// Hello World Program

// Execution Starts from Main method

and

// Prints Hello World

Single line comments can be written in a separate line or along with the codes in same line. However, it is recommended to use comments in a separate line.

**Multi Line Comments**

Multi line comments start with /\* and ends with \*/. Multi line comments can span over multiple lines.

**Example 2: Using multi line comment**

/\*

This is a Hello World Program in C#.

This program prints Hello World.

\*/

using System;

namespace HelloWorld

{

class Program

{

public static void Main(string[] args)

{

/\* Prints Hello World \*/

Console.WriteLine("Hello World!");

}

}

}

The above program contains 2 multi line comments:

/\*

This is a Hello World Program in C#.

This program prints Hello World.

\*/

and

/\* Prints Hello World \*/

Here, we may have noticed that it is not compulsory for a multi-line comment to span over multiple lines. /\* … \*/ can be used instead of single line comments.

**XML Documentation Comments**

XML documentation comment is a special feature in C#. It starts with a triple slash /// and is used to categorically describe a piece of code. This is done using XML tags within a comment. These comments are then, used to create a separate XML documentation file. If you are not familiar with XML, see [What is XML?](https://www.w3schools.com/xml/xml_whatis.asp)

**Example 3: Using XML documentation comment**

/// <summary>

/// This is a hello world program.

/// </summary>

using System;

namespace HelloWorld

{

class Program

{

public static void Main(string[] args)

{

Console.WriteLine("Hello World!");

}

}

}

The XML comment used in the above program is

/// <summary>

/// This is a hello world program.

/// </summary>

The generated XML documentation (.xml file) will contain:

<?xml version="1.0"?>

<doc>

<assembly>

<name>HelloWorld</name>

</assembly>

<members>

</members>

</doc>

Visit [XML Documentation Comments](https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/xmldoc/xml-documentation-comments) if you are interested in learning more.

**Use Comments the Right Way**

Comments are used to explain parts of code but they should not be overused. For example:

// Prints Hello World

Console.WriteLine("Hello World");

Using comment in the above example is not necessary. It is obvious that the line will print Hello World. Comments should be avoided in such cases.

* Instead comments should be used in the program to explain complex algorithms and techniques.
* Comments should be short and to the point instead of a long description.
* As a rule of thumb, it is better to explain **why** instead of **how**, using comments.