

C# PROGRAMMING

object-oriented programming

tutorialspoint

SIMPLYEASYLEARNING

www.tutorialspoint.com





About the Tutorial

C# is a simple, modern, general-purpose, object-oriented programming language developed by Microsoft within its .NET initiative led by Anders Hejlsberg. This tutorial covers basic C# programming and various advanced concepts related to C# programming language.

Audience

This tutorial has been prepared for the beginners to help them understand basics of c# Programming.

Prerequisites

C# programming is very much based on C and C++ programming languages, so if you have a basic understanding of C or C++ programming, then it will be fun to learn C#.

Disclaimer & Copyright

© Copyright 2014 by Tutorials Point (I) Pvt. Ltd.

All the content and graphics published in this e-book are the property of Tutorials Point (I) Pvt. Ltd. The user of this e-book is prohibited to reuse, retain, copy, distribute or republish any contents or a part of contents of this e-book in any manner without written consent of the publisher. We strive to update the contents of our website and tutorials as timely and as precisely as possible, however, the contents may contain inaccuracies or errors. Tutorials Point (I) Pvt. Ltd. provides no guarantee regarding the accuracy, timeliness or completeness of our website or its contents including this tutorial. If you discover any errors on our website or in this tutorial, please notify us at contents including this tutorial. If you discover any errors on our website or in this tutorial, please notify us at contents including this tutorial. If you discover any errors on our website or in this tutorial, please notify us at contents including this tutorial. If you discover any errors on our website or in this tutorial, please notify us at contents including this tutorial. If you discover any errors on our website or in this tutorial.



Contents

	About the Tutorial	
	Audience	
	Prerequisites	
	Disclaimer & Copyright	
	Contents	i
1.	OVERVIEW	1
	Strong Programming Features of C#	1
2.	ENVIRONMENT	3
	The .Net Framework	:
	Integrated Development Environment (IDE) for C#	4
	Writing C# Programs on Linux or Mac OS	2
3.	PROGRAM STRUCTURE	5
	Creating Hello World Program	5
	Compiling and Executing the Program	6
	C# Keywords	10
4.	BASIC SYNTAX	12
	The <i>using</i> Keyword	13
	The class Keyword	14
	Comments in C#	14
	Member Variables	14
	Member Functions	14
	Instantiating a Class	14
	Identifiers	15
	C# Keywords	1
5.	DATA TYPES	17



	Value Type	17
	Reference Type	18
	Object Type	19
	Dynamic Type	19
	String Type	19
	Pointer Type	20
6.	TYPE CONVERSION	21
	C# Type Conversion Methods	22
7.	VARIABLES	24
	Defining Variables	24
	Initializing Variables	25
	Accepting Values from User	26
	Lvalue and Rvalue Expressions in C#:	26
8.	CONSTANTS AND LITERALS	28
	Integer Literals	28
	Floating-point Literals	29
	Character Constants	29
	String Literals	30
	Defining Constants	31
9.	OPERATORS	33
	Arithmetic Operators	33
	Relational Operators	35
	Logical Operators	38
	Bitwise Operators	40
	Assignment Operators	43
	Miscillaneous Operators	46



	Operator Precedence in C#
10.	DECISION MAKING
	if Statement52
	ifelse Statement54
	The ifelse ifelse Statement
	Nested if Statements
	Switch Statement
	The ? : Operator65
11.	LOOPS
	While Loop
	For Loop
	DoWhile Loop
	Nested Loops
	Loop Control Statements
	Infinite Loop
12.	ENCAPSULATION
	Public Access Specifier
	Private Access Specifier
	Protected Access Specifier
	Internal Access Specifier
13.	METHODS
	Defining Methods in C#91
	Calling Methods in C#
	Recursive Method Call
	Passing Parameters to a Method
	Passing Parameters by Value97

