

---

---

## Information technology — C# specification suite

*Technologies de l'information — Suite de spécification C#*





**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted (see [www.iso.org/directives](http://www.iso.org/directives) or [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

ISO and IEC draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO and IEC take no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO and IEC had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents) and <https://patents.iec.ch>. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

This document was prepared by Ecma International (as ECMA-422, C# Specification Suite) and drafted in accordance with its editorial rules. It was assigned to Joint Technical Committee ISO/IEC JTC 1, *Information technology*, and adopted under the “fast-track procedure”.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

<b>Contents</b>		<b>Page</b>
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>The C# language and library .....</b>	<b>1</b>
<b>3.1</b>	<b>C# language specification .....</b>	<b>1</b>
<b>3.2</b>	<b>C# library specification .....</b>	<b>1</b>

## Introduction

C# is a widely used, general-purpose programming language.

Essential components of a C# implementation are described in several individual standards, supplemented by a technical report. The C# Specification Suite is just a collection of those components, which are developed and maintained by Ecma International.

The Suite defined by this specification aggregates these components via normative and informative references to the latest published Ecma International specifications. This has the advantage that an update of the Suite is only needed if there is a change (addition or deletion) in the set of components.

This Ecma Standard was developed by Technical Committee 49 and was adopted by the General Assembly of December 2022.



# C# Specification Suite

## 1 Scope

This specification defines the C# programming language and its required library. It defines all the necessary components that are needed to implement this Suite. This Suite does not change if one or more components are updated by a new standard edition. The Suite changes only when new components are added to it and/or existing components are removed from it.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ECMA-334, *C# language specification*, <https://www.ecma-international.org/publications-and-standards/standards/ecma-334/>

ECMA-335, *Common Language Infrastructure (CLI) : Partition IV: Profiles and Libraries*, <https://www.ecma-international.org/publications-and-standards/standards/ecma-335/>

## 3 The C# language and library

An implementation of C# consists of the C# programming language and its required library, and shall conform to ECMA-334, and the relevant parts of ECMA-335: Partition IV, respectively.

The following Ecma Standards are part of the current C# Specification Suite:

- ECMA-334, *C# language specification*
- ECMA-335, *Common Language Infrastructure (CLI) : Partition IV: Profiles and Libraries*

### 3.1 C# language specification

This component defines the syntax and semantics of the C# language and its pre-processing directives; optional features; and a library that shall be available for use by C# programs as they execute.

### 3.2 C# library specification

This component defines the syntax and semantics of a family of types usable from a C# program. As published, ECMA-335 contains more facilities than are required by a C# implementation. The subset of facilities that are required by C# are specified in the normative annex “Standard library” of ECMA-334.

## Bibliography

- [1] ECMA TR/84, *Common Language Infrastructure (CLI) - Information derived from Partition IV XML file*, <https://www.ecma-international.org/publications-and-standards/technical-reports/ecma-tr-84/>





