

Coding Standards

Coding Standards

- Naming conventions
 - *how to choose meaningful names for classes, methods, and variables*
 - *camelCase vs. snake_case vs. kebab-case vs. PascalCase for each of the above*
- Formatting
 - *spaces vs. tabs, max line length, ...*
 - *braces on same vs. next line, alignment of method parameters, etc.*
- Commenting and documentation
- Best practices

```
class OrderManager(private val server: Server) {  
  
    // Place an order and return a corresponding OrderResult  
    fun placeOrder(orderDetails: OrderDetails): OrderResult {  
        val response = server.submitOrder(orderDetails)  
  
        if (response.isSuccess) {  
            return OrderResult.Success(response.orderId)  
        }  
        return OrderResult.Failure(response.errorMessage)  
    }  
  
    // Cancel an order by ID; returns true if successful, false otherwise  
    fun cancelOrder(orderId: String): Boolean {  
        val response = server.cancelOrder(orderId)  
  
        return response.isSuccess  
    }  
}
```

```

class OrderManager(private val server: Server) {

    // Place an order and return a corresponding OrderResult
    fun placeOrder(orderDetails: OrderDetails): OrderResult {
        val response = server.submitOrder(orderDetails)

        if (response.isSuccess) {
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        return response.isSuccess
    }
}

```

```

class OrderManager(private val server: Server) {

    // Place an order and return a corresponding OrderResult
    fun placeOrder(details: OrderDetails) = server.submitOrder(details).let {
        if (it.isSuccess) OrderResult.Success(it.orderId) else OrderResult.Failure(it.errorMessage)
    }

    // Cancel an order by ID; returns true if successful, false otherwise
    fun cancelOrder(orderId: String): Boolean =
        server.cancelOrder(orderId).isSuccess
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    fun cancelOrder(orderId: String): Boolean =
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}

```

```

/**
 * Manages food orders by interfacing with a server for order operations.
 *
 * @property server The server used for order operations.
 */
class OrderManager(private val server: Server) {

    /**
     * Places a new order with specified details.
     *
     * Returns an [OrderResult] indicating the outcome.
     *
     * @param orderDetails Details of the order being placed.
     * @return [OrderResult] indicating success or failure.
     */
    fun placeOrder(orderDetails: OrderDetails): OrderResult =
        server.submitOrder(orderDetails).let { response ->
            if (response.isSuccess) OrderResult.Success(response.orderId)
            else OrderResult.Failure(response.errorMessage)
        }

    /**
     * Cancels an order by its ID.
     *
     * Returns a boolean indicating the operation's success.
     *
     * @param orderId The ID of the order to cancel.
     * @return True if cancellation was successful, false otherwise.
     */
    fun cancelOrder(orderId: String): Boolean =
        server.cancelOrder(orderId).isSuccess
}

```

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- 3) Placing Braces and Spaces
- 4) Naming
- 5) Typedefs
- 6) Functions
- 7) Centralized exiting of functions
- 8) Commenting
- 9) You've made a mess of it
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- 11) Data structures
- 12) Macros, Enums and RTL
- 13) Printing kernel messages
- 14) Allocating memory
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- 17) Don't re-invent the kernel macros
- 18) Editor modelines and other cruft
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- Appendix I) References

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Linux kernel coding style

This is a short document describing the preferred coding style for the linux kernel. Coding style is very personal, and I won't **force** my views on anybody, but this is what goes for anything that I have to be able to maintain, and I'd prefer it for most other things too. Please at least consider the points made here.

First off, I'd suggest printing out a copy of the GNU coding standards, and NOT read it. Burn them, it's a great symbolic gesture.

Anyway, here goes:

1) Indentation

Tabs are 8 characters, and thus indentations are also 8 characters. There are heretic movements that try to make indentations 4 (or even 2!) characters deep, and that is akin to trying to define the value of PI to be 3.

Rationale: The whole idea behind indentation is to clearly define where a block of control starts and ends. Especially when you've been looking at your screen for 20 straight hours, you'll find it a lot easier to see how the indentation works if you have large indentations.

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Linux kernel coding style

The screenshot shows the Microsoft Learn website interface. At the top, there is a navigation bar with the 'Learn' logo and several dropdown menus: 'Discover', 'Product documentation', 'Development languages', and 'Topics'. Below this is a secondary navigation bar for '.NET' with dropdowns for 'Languages', 'Features', 'Workloads', 'APIs', 'Troubleshooting', and 'Resources'. A search box labeled 'Filter by title' is present. The main content area displays the article 'Common C# code conventions' under the path 'Learn / .NET / C# guide / Fundamentals /'. The article is dated 08/01/2023 and has 12 contributors. A 'Feedback' link is visible. On the left, a sidebar menu lists various C# topics, with 'C# coding conventions' highlighted. The article text begins with an introduction to code standards and lists three goals: correctness, teaching, and consistency.

Learn / .NET / C# guide / Fundamentals /

Common C# code conventions

Article • 08/01/2023 • 12 contributors [Feedback](#)

In this article

- [Tools and analyzers](#)
- [Language guidelines](#)
- [Style guidelines](#)
- [Security](#)

A code standard is essential for maintaining code readability, consistency, and collaboration within a development team. Code that follows industry practices and established guidelines is easier to understand, maintain, and extend. Most projects enforce a consistent style through code conventions. The [dotnet/docs](#) and [dotnet/samples](#) projects are no exception. In this series of articles, you learn our coding conventions and the tools we use to enforce them. You can take our conventions as-is, or modify them to suit your team's needs.

We chose our conventions based on the following goals:

1. *Correctness*: Our samples are copied and pasted into your applications. We expect that, so we need to make code that's resilient and correct, even after multiple edits.
2. *Teaching*: The purpose of our samples is to teach all of .NET and C#. For that reason, we don't place restrictions on any language feature or API. Instead, those samples teach when a feature is a good choice.
3. *Consistency*: Readers expect a consistent experience across our content. All

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The screenshot shows the Microsoft Learn website navigation. The top bar includes 'Learn', 'Discover', 'Product documentation', 'Development languages', and 'Topics'. Below this is a search bar and a breadcrumb trail: 'Learn / .NET / C# guide / Fundamentals /'. The main navigation menu is expanded to show 'C# coding conventions' selected. Other visible items include 'C# documentation', 'Get started', 'Fundamentals', 'Program structure', 'Type system', 'Object-oriented programming', 'Functional techniques', 'Exceptions and errors', 'Coding style', 'C# identifier names', 'Tutorials', 'What's new in C#', 'Language-Integrated Query (LINQ)', 'Asynchronous programming', 'C# concepts', 'How-to C# articles', 'Advanced topics', 'The .NET Compiler Platform SDK (Roslyn APIs)', 'C# programming guide', 'Language reference', and 'Specifications'.

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 - Function Annotations
 - Variable Annotations

PEP 8 – Style Guide for Python Code

Author: Guido van Rossum <guido at python.org>, Barry Warsaw <barry at python.org>, Alyssa Coghlan <ncoghlan at gmail.com>

Status: Active

Type: Process

Created: 05-Jul-2001

Post-History: 05-Jul-2001, 01-Aug-2013

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Introduction

This document gives coding conventions for the Python code comprising the standard library in the main Python distribution. Please see the companion informational PEP describing [style guidelines for the C code in the C implementation of Python](#).

This document and [PEP 257](#) (Docstring Conventions) were adapted from Guido's original Python Style Guide essay, with some additions from Barry's style guide [2].

This style guide evolves over time as additional conventions are identified and past conventions are rendered obsolete by changes in the language itself.

Many projects have their own coding style guidelines. In the event of any conflicts, such project-specific guides take precedence for that project.

A Foolish Consistency is the Hobgoblin of Little Minds

One of Guido's key insights is that code is read much more often than it is written. The guidelines provided here are intended to improve the readability of code and make it consistent across the wide spectrum of Python code. As [PEP 20](#) says, "Readability counts".

A style guide is about consistency. Consistency with this style guide is important. Consistency within a project is more important. Consistency within one module or function is the most important.

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Header Files	Self-contained Headers The #define Guard Include What You Use Forward Declarations Inline Functions Names and Order of Includes
Scoping	Namespaces Internal Linkage Nonmember, Static Member, and Global Functions Local Variables Static and Global Variables thread_local Variables
Classes	Doing Work in Constructors Implicit Conversions Copyable and Movable Types Structs vs. Classes Structs vs. Pairs and Tuples Inheritance Operator Overloading Access Control Declaration Order
Functions	Inputs and Outputs Write Short Functions Function Overloading Default Arguments Trailing Return Type Syntax
Google-Specific Magic	Ownership and Smart Pointers cpplint
Other C++ Features	Rvalue References Friends Exceptions noexcept Run-Time Type Information (RTTI) Casting Streams Preincrement and Predecrement Use of const Use of constexpr, constexpr, and consteval Integer Types 64-bit Portability Preprocessor Macros 0 and nullptr/NULL sizeof Type Deduction (including auto) Class Template Argument Deduction Designated Initializers Lambda Expressions Template Metaprogramming Concepts and Constraints Boost Other C++ Features Nonstandard Extensions Aliases Switch Statements
Inclusive Language	
Naming	General Naming Rules File Names Type Names Concept Names Variable Names Constant Names Function Names Namespace Names Enumerator Names Macro Names Exceptions to Naming Rules
Comments	Comment Style File Comments Struct and Class Comments Function Comments Variable Comments Implementation Comments Punctuation, Spelling, and Grammar TODO Comments
Formatting	Line Length Non-ASCII Characters Spaces vs. Tabs Function Declarations and Definitions Lambda Expressions Floating-point Literals Function Calls Braced Initializer List Format Looping and branching statements Pointer and Reference Expressions Boolean Expressions Return Values Variable and Array Initialization Preprocessor Directives Class Format Constructor Initializer Lists Namespace Formatting Horizontal Whitespace Vertical Whitespace
Exceptions to the Rules	Existing Non-conformant Code Windows Code