

Table of contents

Python Tutorial	2
0.1 Tutorial Features	2
0.2 Available Formats	2
0.2.1 Books (Comprehensive Guides)	2
0.2.2 Slides (Interactive Presentations)	3
0.3 Development Environment	4
0.4 Learning Path	4
0.4.1 Beginners	4
0.4.2 Intermediate	4
0.4.3 Advanced	4
0.5 Quick Start	5
0.5.1 For Self-Study	5
0.5.2 For Instructors	5
0.5.3 For Developers	5
0.6 Code Examples	5
0.7 Contributing	5
0.8 Responsive Design	6
0.9 Latest Updates	6

Python Tutorial

Welcome to the comprehensive Python programming tutorial by **Ameyanagi**. This tutorial covers Python from basics to advanced applications, with support for multiple languages and formats.

0.1 Tutorial Features

- **Multi-format Learning:** Books, slides, and interactive content
- **Bilingual Support:** English and Japanese versions
- **Comprehensive Coverage:** From Python basics to data science
- **Modern Development:** Using uv, VS Code, and best practices
- **Real-world Applications:** Practical projects and examples

! Interactive Python Learning

NEW! All tutorials now feature **Quarto Live** - run and edit Python code directly in your browser without installing anything! Perfect for beginners and experienced developers alike.

Features: - **Zero Setup** - No Python installation required - **Live Code Editing** - Modify examples and see results instantly
- **Interactive Plots** - Create and customize data visualizations - **Drag & Drop Files** - Upload CSV, Excel, JSON files for analysis - **Browser-Based** - Works on any device with a web browser

0.2 Available Formats

0.2.1 Books (Comprehensive Guides)

0.2.1.1 English Version

Complete Python tutorial with 12 chapters covering: - Environment setup and Git integration - Python syntax and data structures

- Functions and error handling - Object-oriented programming - Advanced topics (async, type hints) - Real-world applications (data science, web development)

[Read English Book →](#)

0.2.1.2 Japanese Version ()

Python - 16 : - Git - Python - IoT

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0.2.2 Slides (Interactive Presentations)

Perfect for lectures, workshops, and quick learning sessions. Available in English and Japanese with mobile-optimized RevealJS:

0.2.2.1 English Slides

Complete presentation series:

[View All English Slides →](#)

Core Topics: - [Introduction & Setup](#) - [Data Types & Collections](#) - [Control Flow](#) - [Functions](#) - [Error Handling](#)

Code Organization: - [Modules & Packages](#) - [Classes & Objects](#) - [Inheritance & Polymorphism](#)

Advanced Topics: - [Type Hints](#) - [Data Science](#) - [IoT Connectivity](#)

0.2.2.2 Japanese Slides ()

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: - - IoT

0.2.2.3 Mobile-Optimized Slides

All slides are optimized for: - **iPhone/Android** - Touch navigation, responsive scaling - **Tablets** - Perfect presentation mode - **Desktop** - Full-featured experience with keyboard shortcuts - **Projectors** - High-resolution output for classrooms

0.3 Development Environment

This tutorial teaches modern Python development using:

- **uv**: Modern Python package manager
- **VS Code**: Integrated development environment
- **ruff**: Fast Python linter and formatter
- **pyright**: Static type checker
- **Git**: Version control integration
- **Quarto**: Multi-format publishing

0.4 Learning Path

0.4.1 Beginners

1. Start with [Environment Setup](#)
2. Learn [Git & GitHub](#)
3. Master [Python Syntax](#)
4. Practice with [Data Types](#)

0.4.2 Intermediate

1. Understand [Control Flow](#)
2. Learn [Functions](#)
3. Complete [Self-Review](#)
4. Explore [Object-Oriented Programming](#)

0.4.3 Advanced

1. Master [Inheritance](#)
2. Use [Type Hints](#)
3. Learn [Async Programming](#)
4. Apply [Data Science](#)

0.5 Quick Start

0.5.1 For Self-Study

- Choose your preferred language (English/Japanese)
- Follow the learning path sequentially
- Complete exercises in each chapter
- Build the capstone projects

0.5.2 For Instructors

- Use slides for classroom presentations
- Assign book chapters for reading
- Leverage built-in exercises and self-review sections
- Adapt content for your curriculum

0.5.3 For Developers

- Jump to specific topics you need
- Use as a reference guide
- Follow best practices demonstrated
- Integrate modern tooling into your workflow

0.6 Code Examples

All code examples are: - **Tested and verified** - **Copy-paste ready** - **Following best practices** - **Progressively complex**

0.7 Contributing

This tutorial is open source and welcomes contributions:

- Report issues
- Suggest improvements

- Help with translations
- Add examples and exercises

[Contribute on GitHub](#) →

0.8 Responsive Design

This tutorial works perfectly on: - Desktop computers - Mobile devices - Tablets - Projectors (for slides)

0.9 Latest Updates

- **Comprehensive slide presentations** for interactive learning
- **Japanese translations** for key chapters
- **Data science applications** with real-world examples
- **Modern tooling integration** (uv, ruff, pyright)
- **Type hints coverage** for robust code development

Ready to start your Python journey?

Choose your learning format and begin today!

Start with Books **View Slides**

Built with `by Ameyanagi` using Quarto, Python, and modern development tools.