Objects and Games with Python

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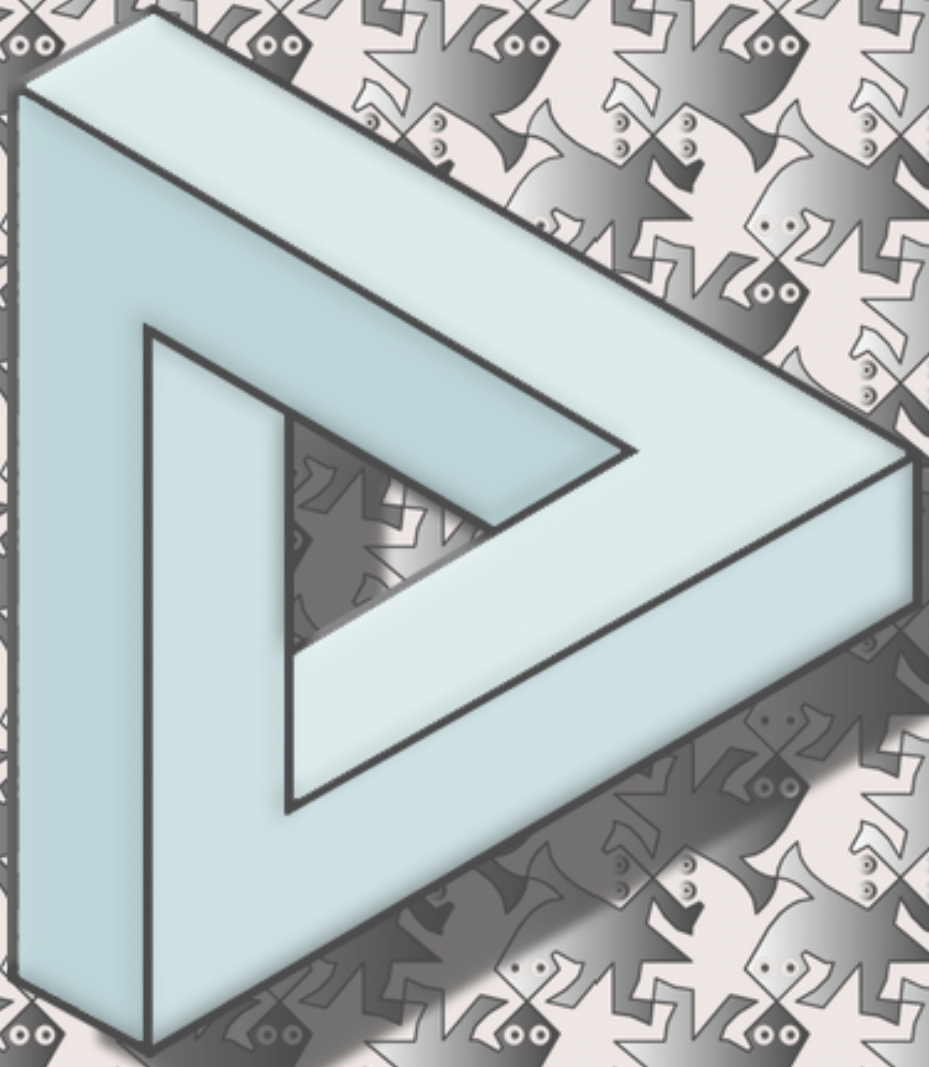

For access to code examples in the text, visit:

https://github.com/ProfessorBurke/PythonObjectsGames

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A note to the reader

Welcome to *Objects and Games with Python*! This book is for any beginner who wants to learn general programming, the object-oriented paradigm, or two-dimensional game programming. There are different paths that you can take through this book depending on what you want to learn.

- To learn object-oriented programming concepts, read Chapters 1-7.
- To learn game programming, read Chapters 1 and 2, followed by Chapters 8-11.
- To learn both, read Chapters 1-11.

Chapters 1 and 2 are an overview of foundational programming concepts and an introduction to the pygame game programming library, which is used throughout the book. You should not skip these chapters, even if you have programmed before. (At least skim them and take extra time with anything that is not familiar.) If you have never programmed before, you should take your time with Chapters 1 and 2, as they offer a light introduction to many concepts that beginning programmers sometimes find difficult.

Your author wishes that a book could teach you to be a programmer, but at best it will be your static, steadfast companion and guide. To learn to program, you must program. To achieve any mastery from this book, you should take full advantage of the *Try this*, *Skill building*, and *Challenge sections*. Ideally, read this book as part of a college course or with a friend, and discuss what you are reading and programming. Challenge yourself and challenge each other by asking questions about how Python works and by exploring systematically to find the answer.

There are other strategies you can use to make the most of this book, such as:

- Take notes and reorganize them after each chapter. In a book, concepts are introduced slowly. Once you have completed a chapter (or beyond), you will have seen "the big picture" and you should be able to write a concise summary of everything you know on a topic. You will probably find there are holes in your knowledge when you write your summary. Fill them in by re-reading or experimenting with Python.
- Create a "cheat sheet" of syntax and concepts and add to it after each section. This will be a useful reference for you as you program.
- Rewrite the examples in the book. Try to do this without looking at the book but refer to the book when you need to. If you do not understand what a line of code (or block of code) does, review that part of the chapter and try again.
- Desk-check the examples in the book. If you do not understand what a line of code does, review that part of the chapter. Run the program in the debugger to check your desk-checks. The debugger and desk-checking are covered in Chapter 1.
- Keep an engineering notebook. An engineering notebook is a notebook of the steps you took while you were designing, programming, or debugging a program. (Or installing software.) You will learn what detail is important to record and what detail is irrelevant. The notebook can be an invaluable tool in recreating steps that worked and in finding causes of bugs.

Most importantly, have fun learning Python, object-oriented programming and design, and game programming with pygame!

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