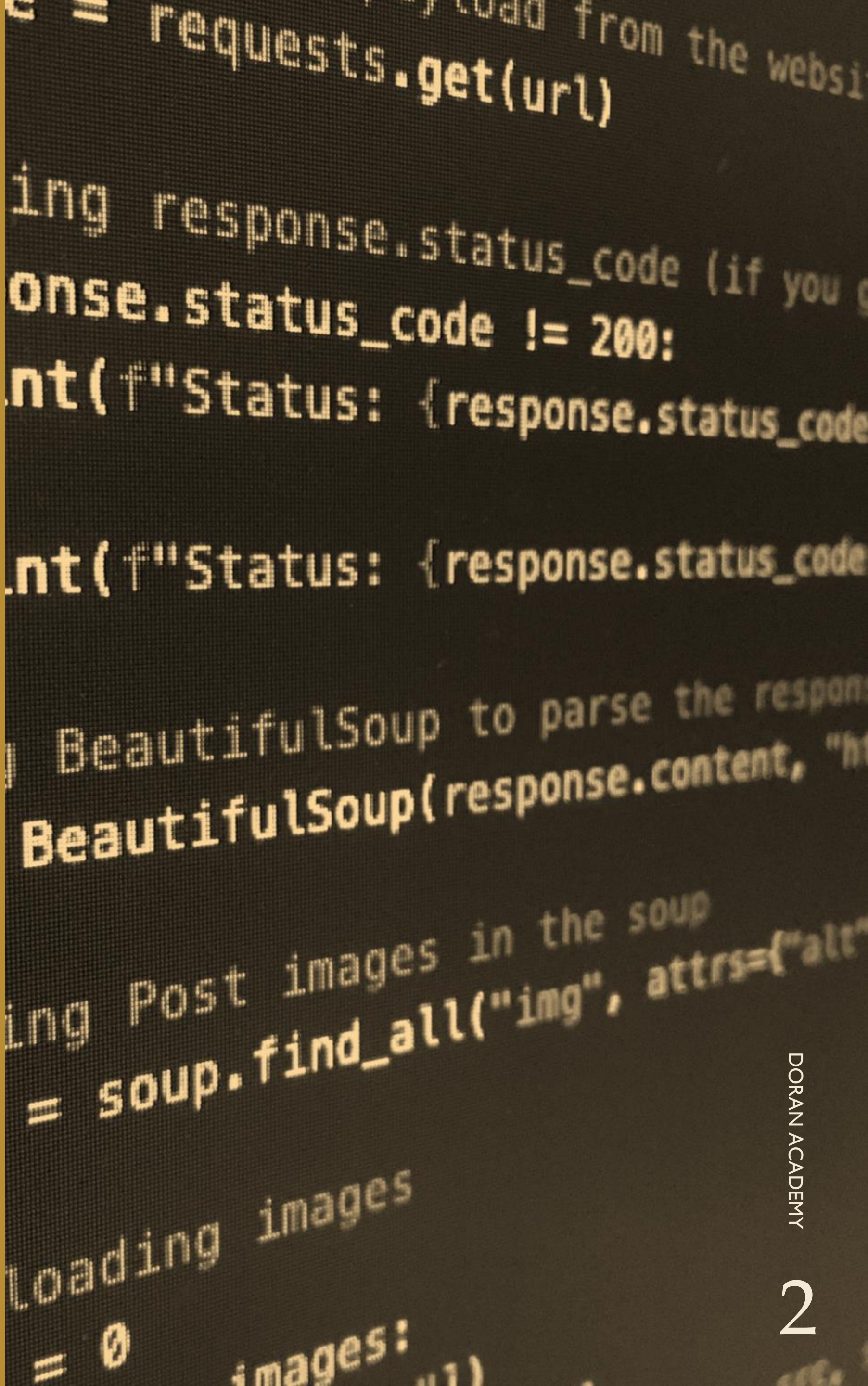
PYTHON FUNDAMENTAL MASTERCLASS

KICKSTART TO LEARNING PYTHON
AND
STEP BY STEP SYLLABUS

INTRODUCTION AND BASICS

- Introduction
- Interpreter vs. Compiler
- Understanding and Getting to Know Python
- More on Variables and Strings String Formatting
- Displaying Numbers, Variables and Strings



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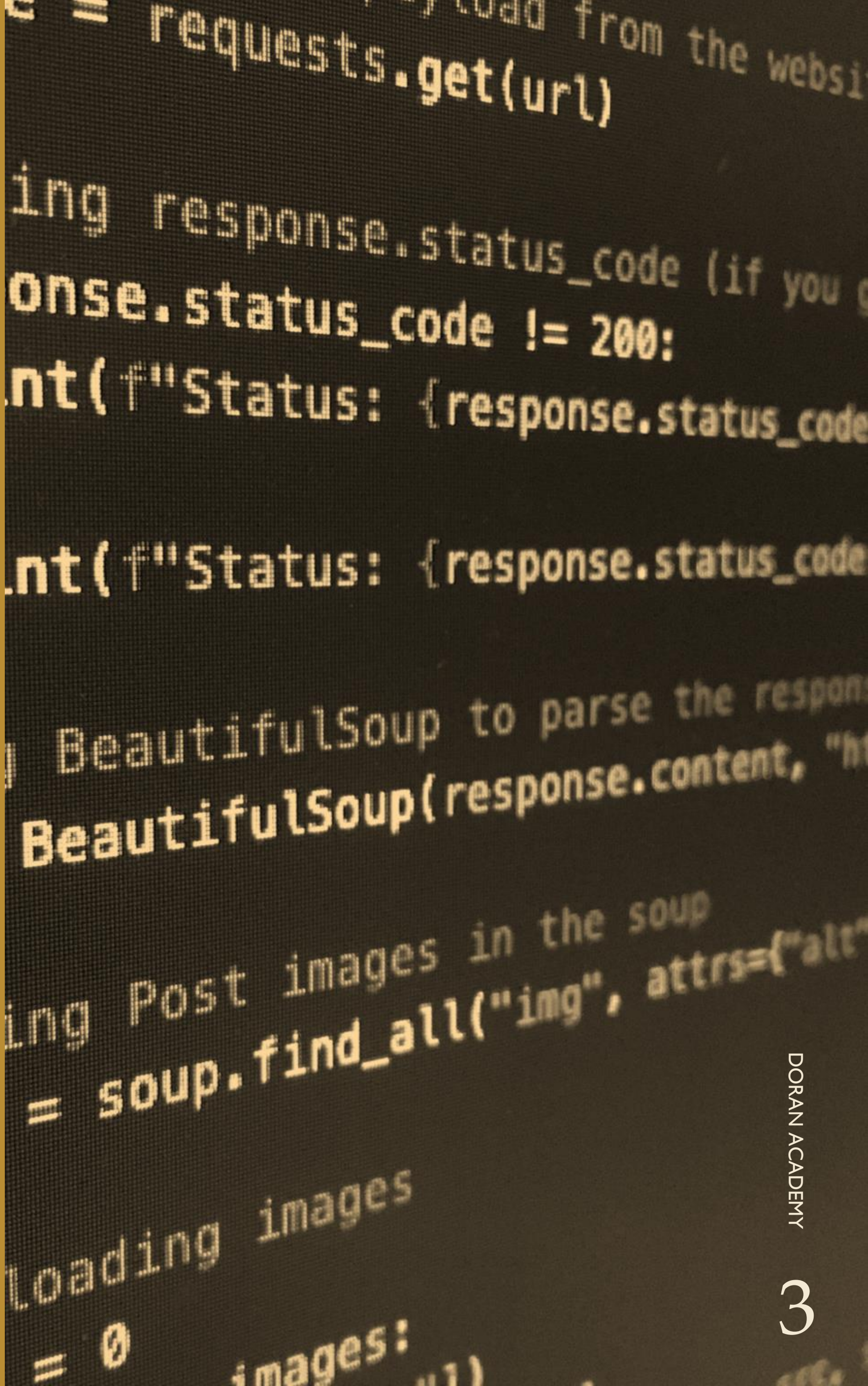
PROGRAM FLOW CONTROL

- Conditions with IF ELIF ELSE
- FOR Loops
- Understanding CONTINUE and BREAK
- Augmented Assignments
- WHILE Loops
- Nesting Conditions and Loops



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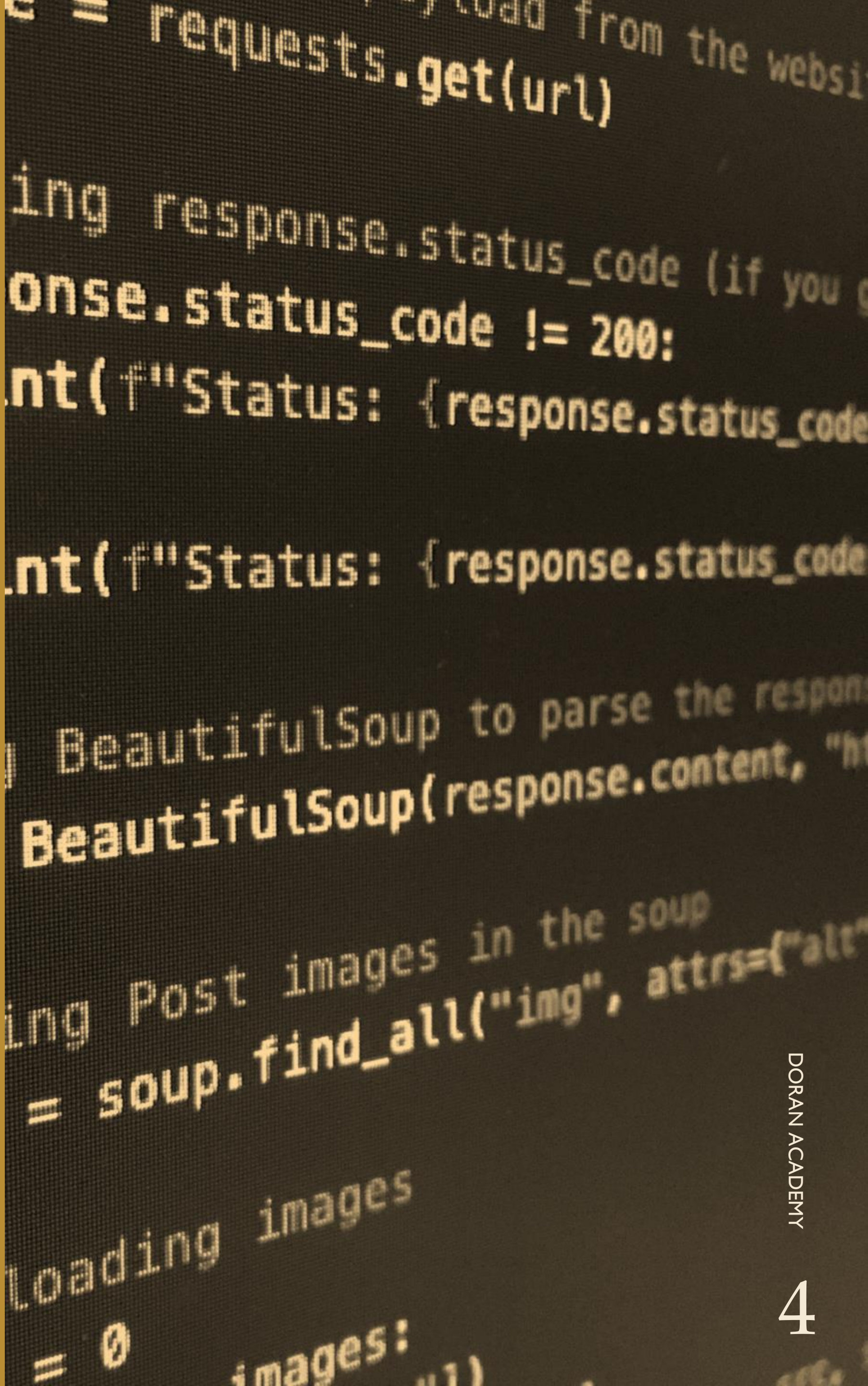
UNDERSTANDING SEQUENCES

- Lists in Python
- Understanding Iterators
- Using Ranges
- Ordered Sets Using Tuples
- Binary and Hex Numbers in Python



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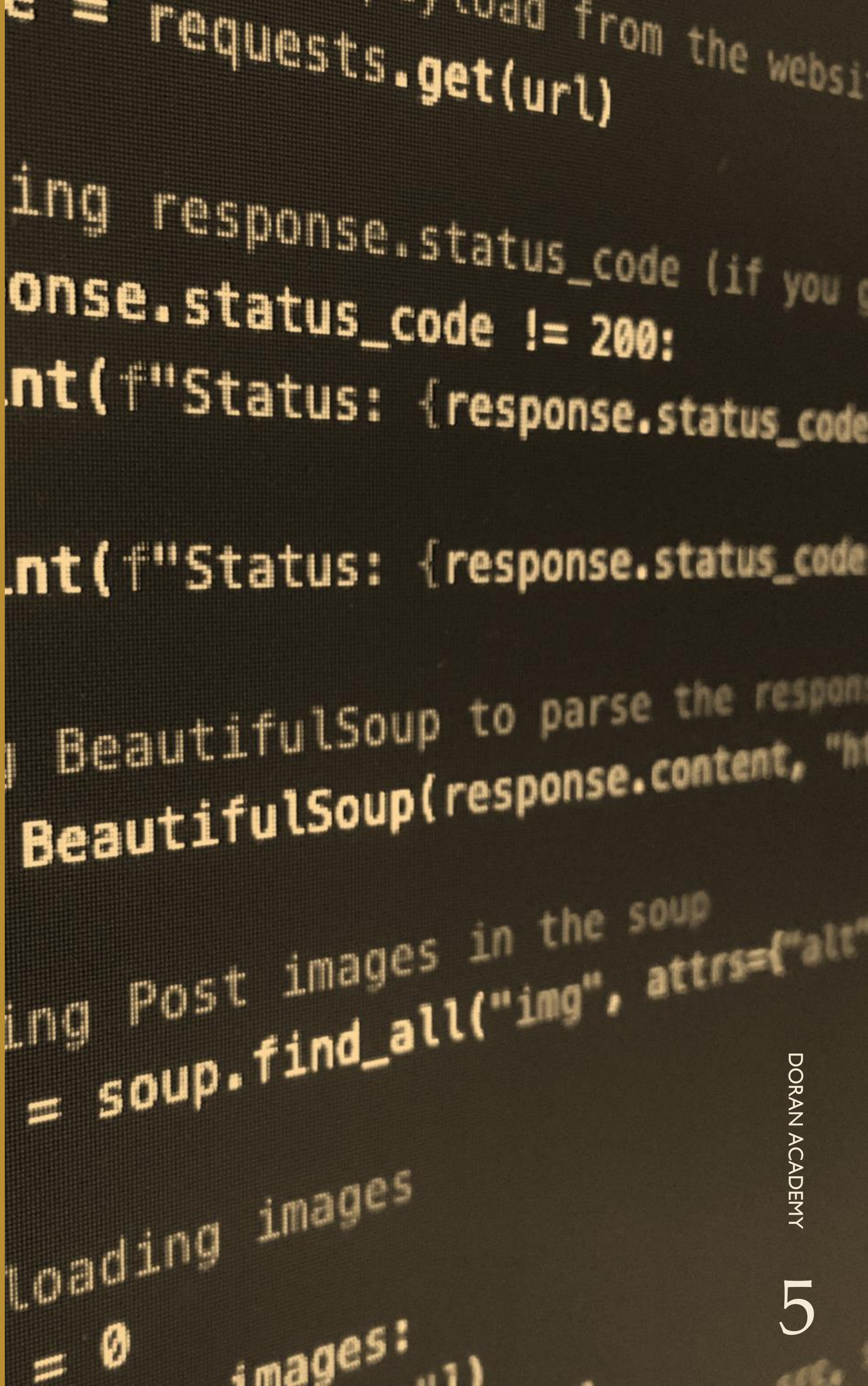
UNDERSTANDING MAPPINGS

- Dictionaries and More
- Sets in Python



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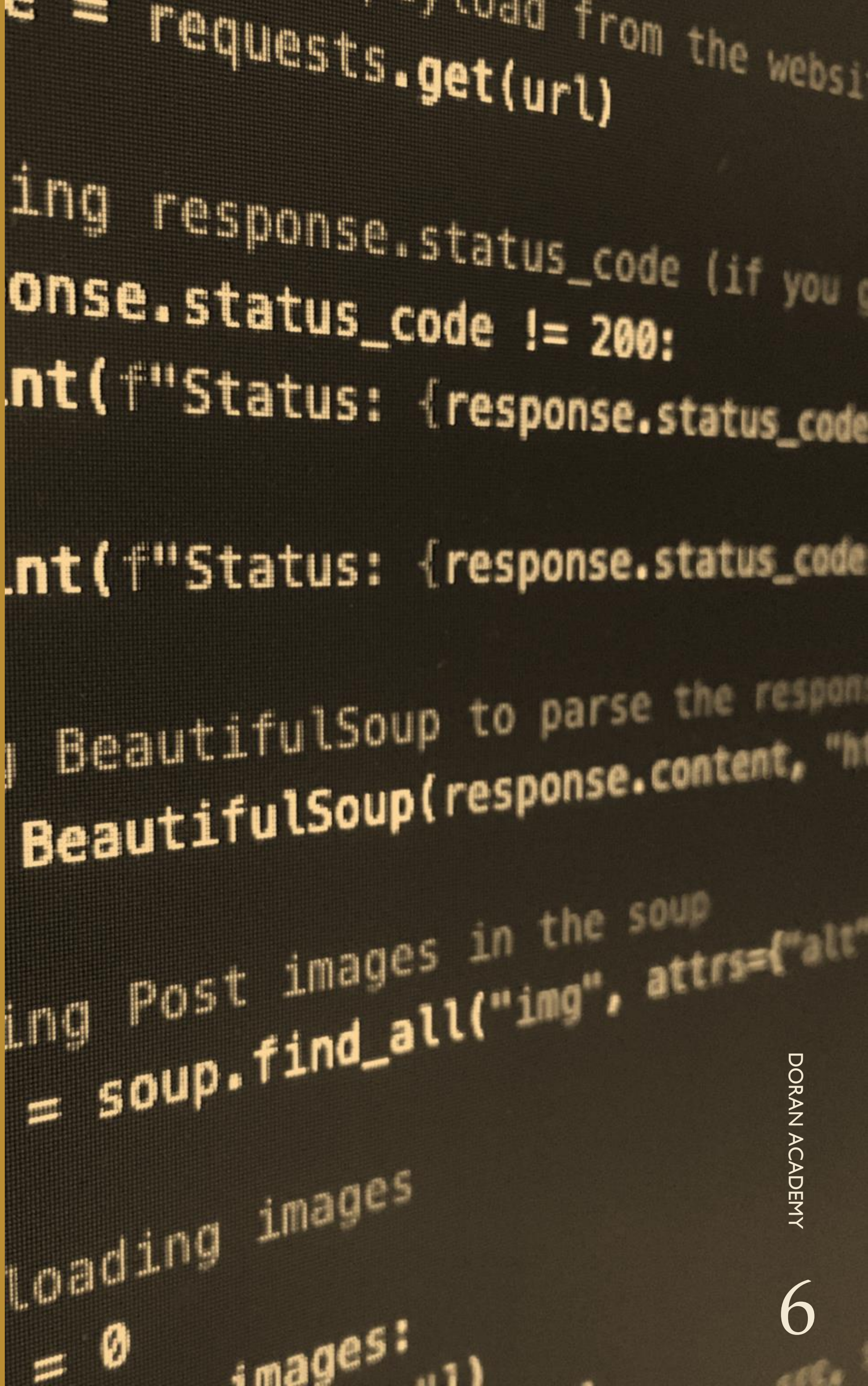
HANDLING FILES, INPUT AND OUTPUT

- Reading and Writing Text Files
- Appending to Files
- Writing Binary Files Manually
- Using PICKLE to Write Binary Files
- Shelves
- Manipulating Data with Shelves
- Updating With Shelves



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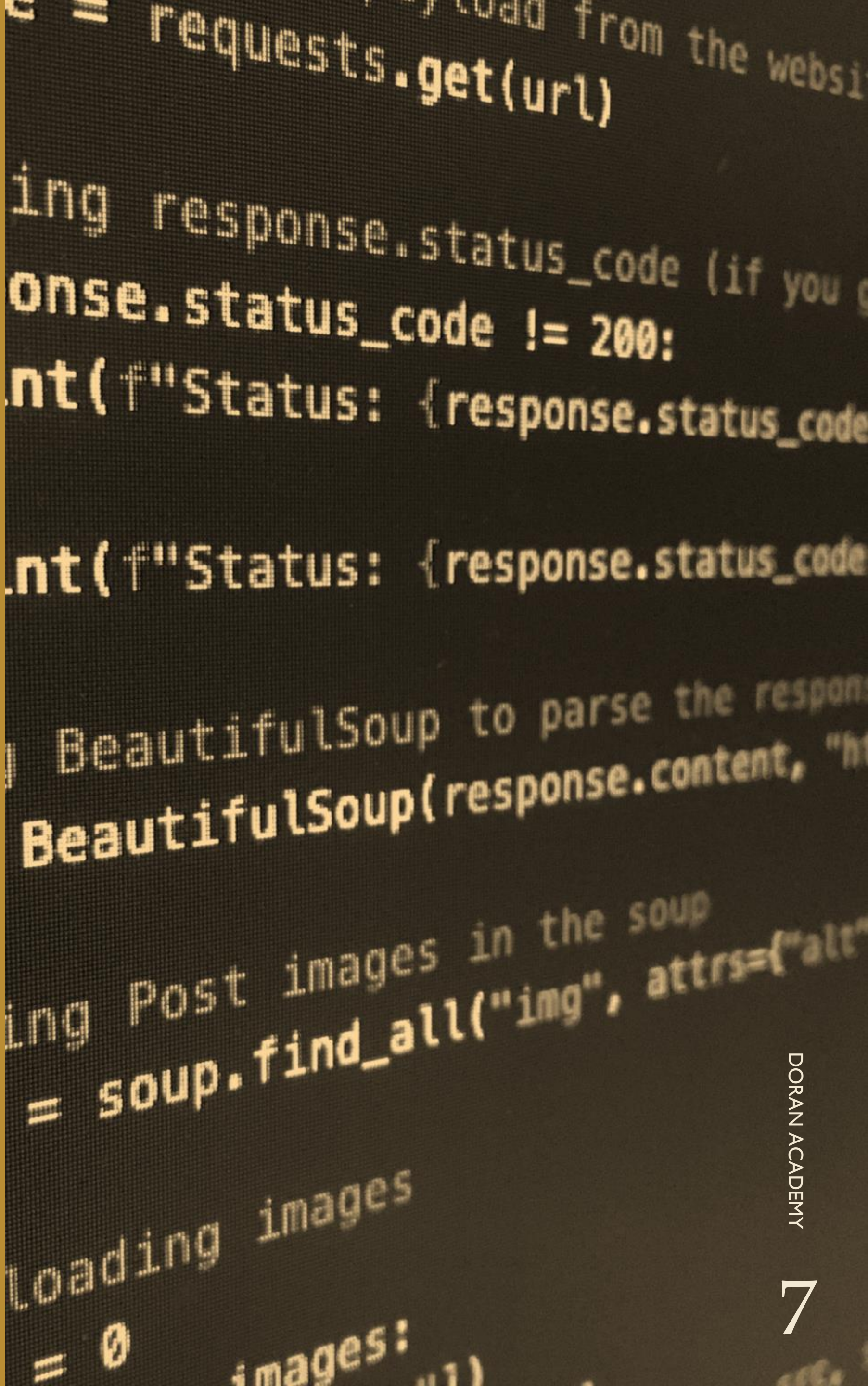
MODULES AND FUNCTIONS – P1

- Modules and Import
- Standard Python Library
- Time and Date in Python
- Timezones and PYTZ
- Checking Path
- Functions in Python
- Scope in Functions
- Global Variables



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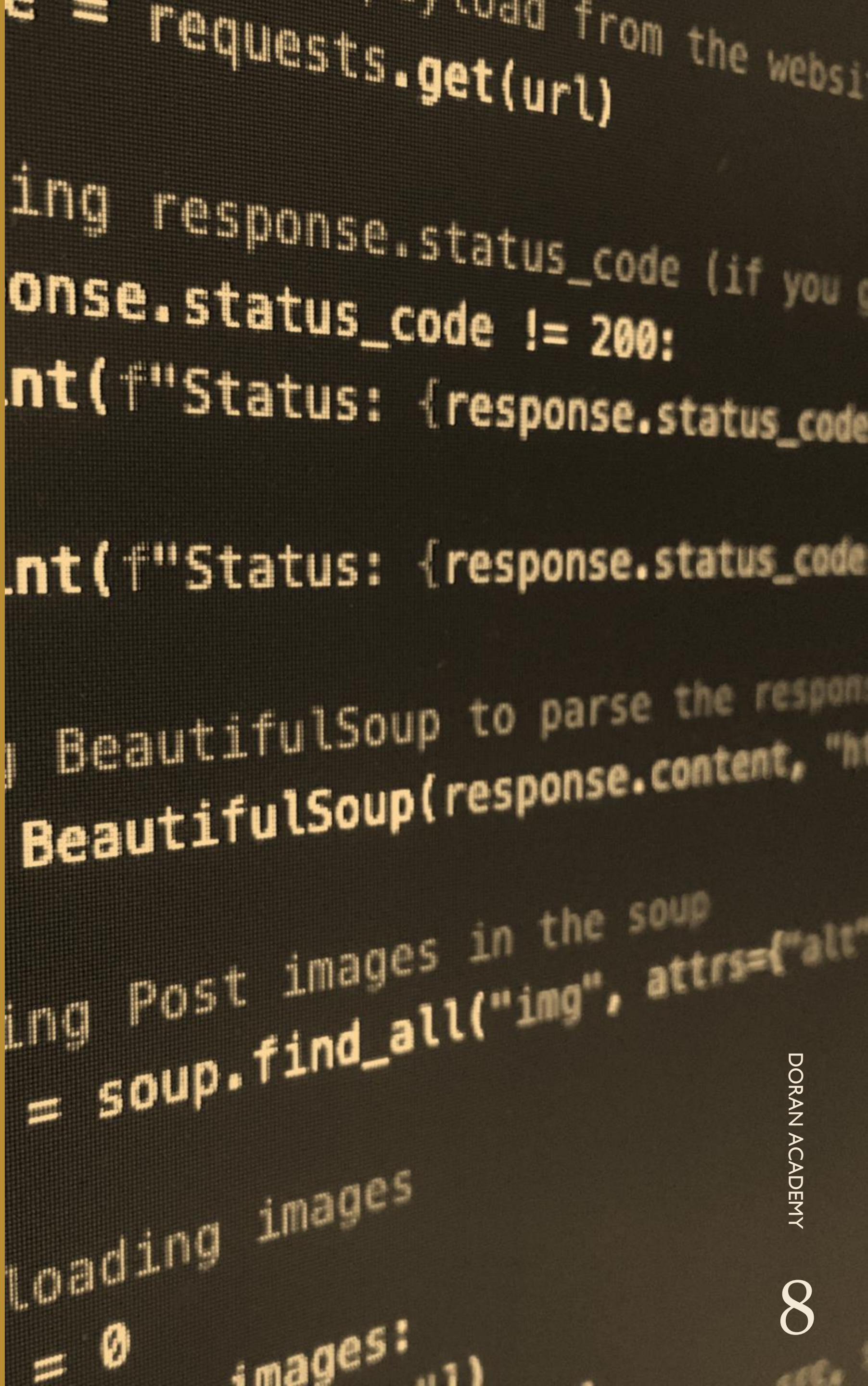
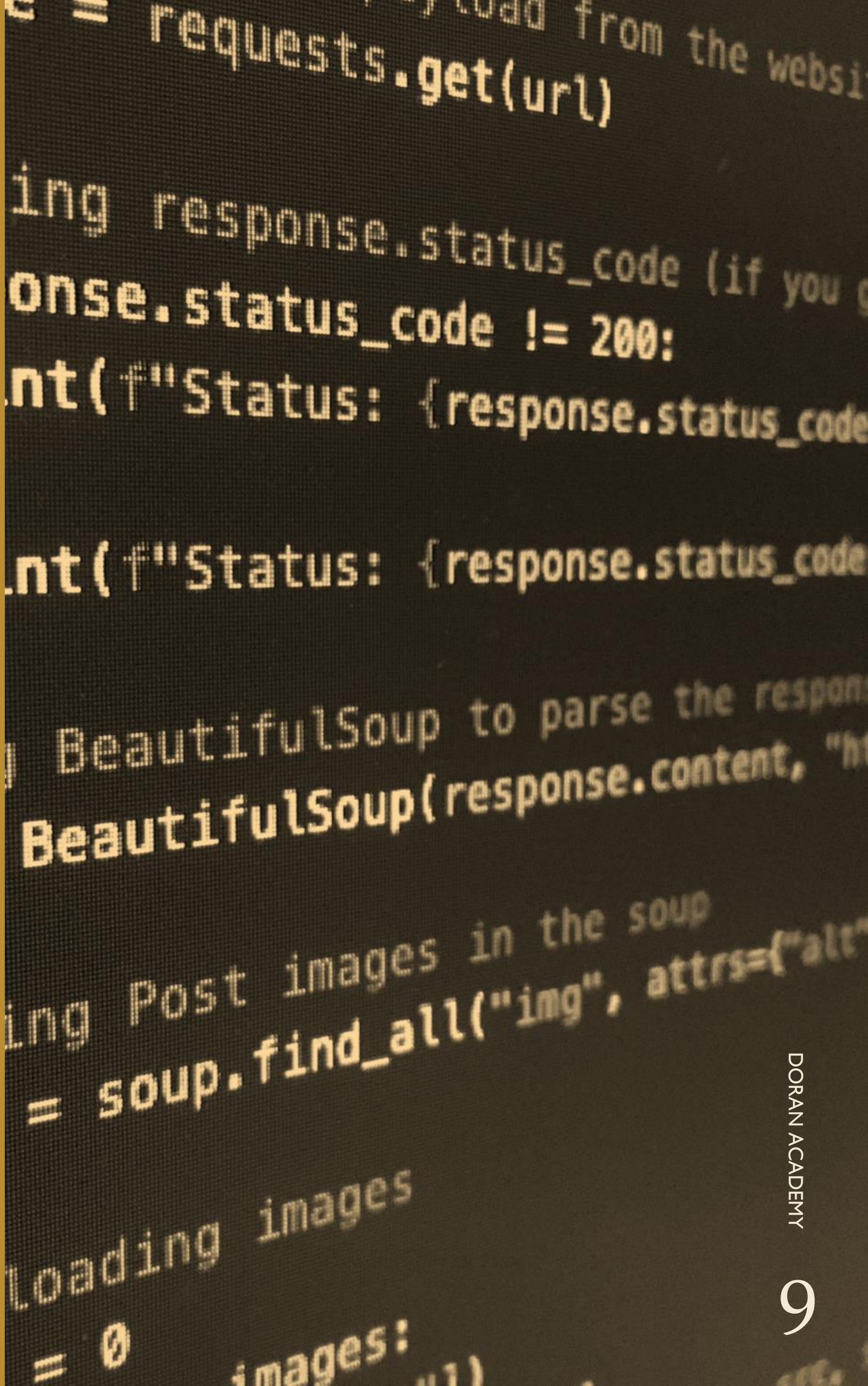
MODULES AND FUNCTIONS – P2

- Importing Techniques
- Underscores in Python
- Namespaces
- Recursion
- Nonlocal
- LEGB



EXCEPTIONS

- Reviews
- Handling Exceptions
- Raising Exceptions
- Customising Exceptions



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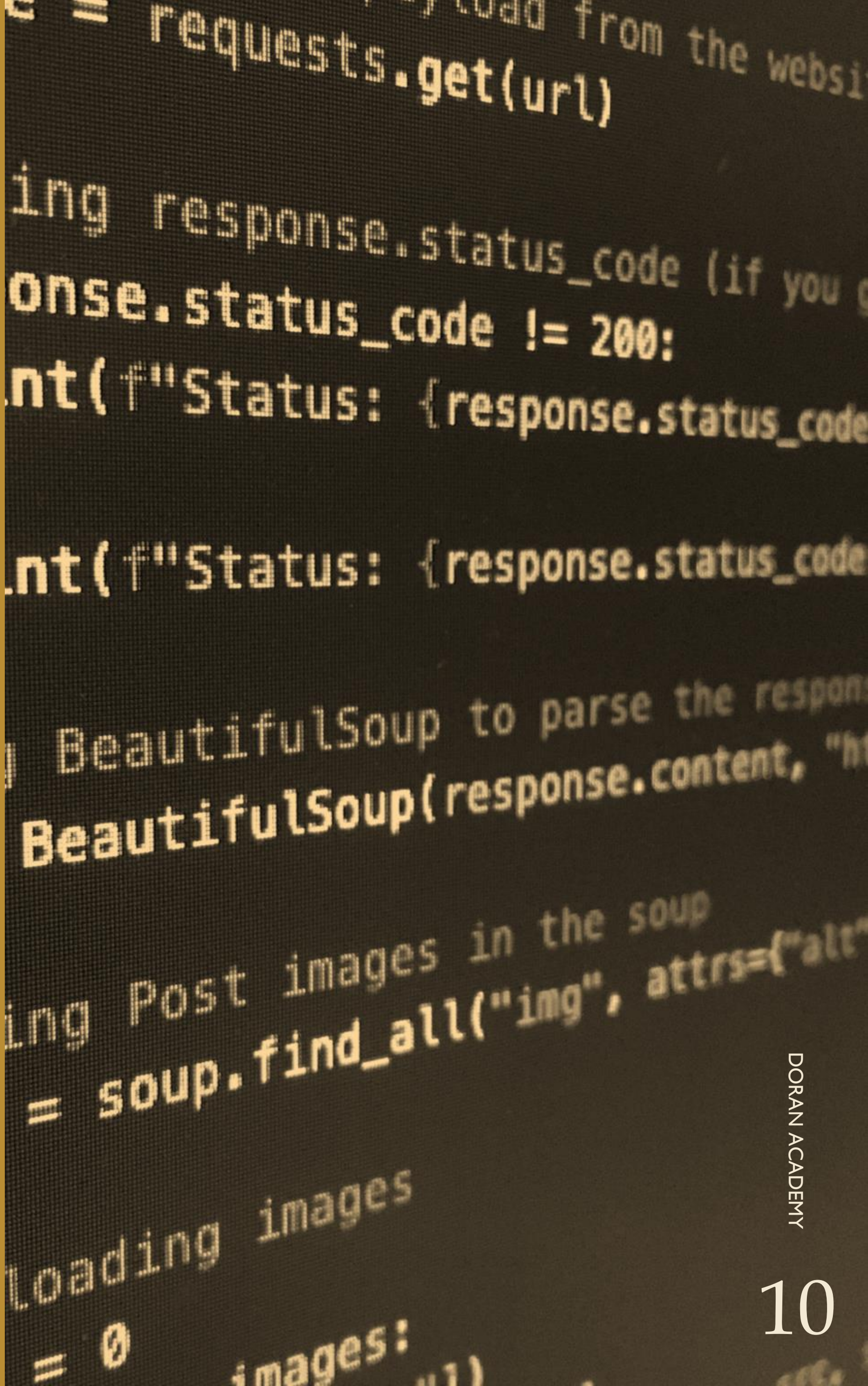
OBJECT ORIENTED PROGRAMMING – P1

- OOP and Classes
- Instances, Constructors, Self and More
- Class Attributes
- Methods
- Non Public and Mangling
- DocString and Raw Literals
- Compile Time
- Getters and Properties



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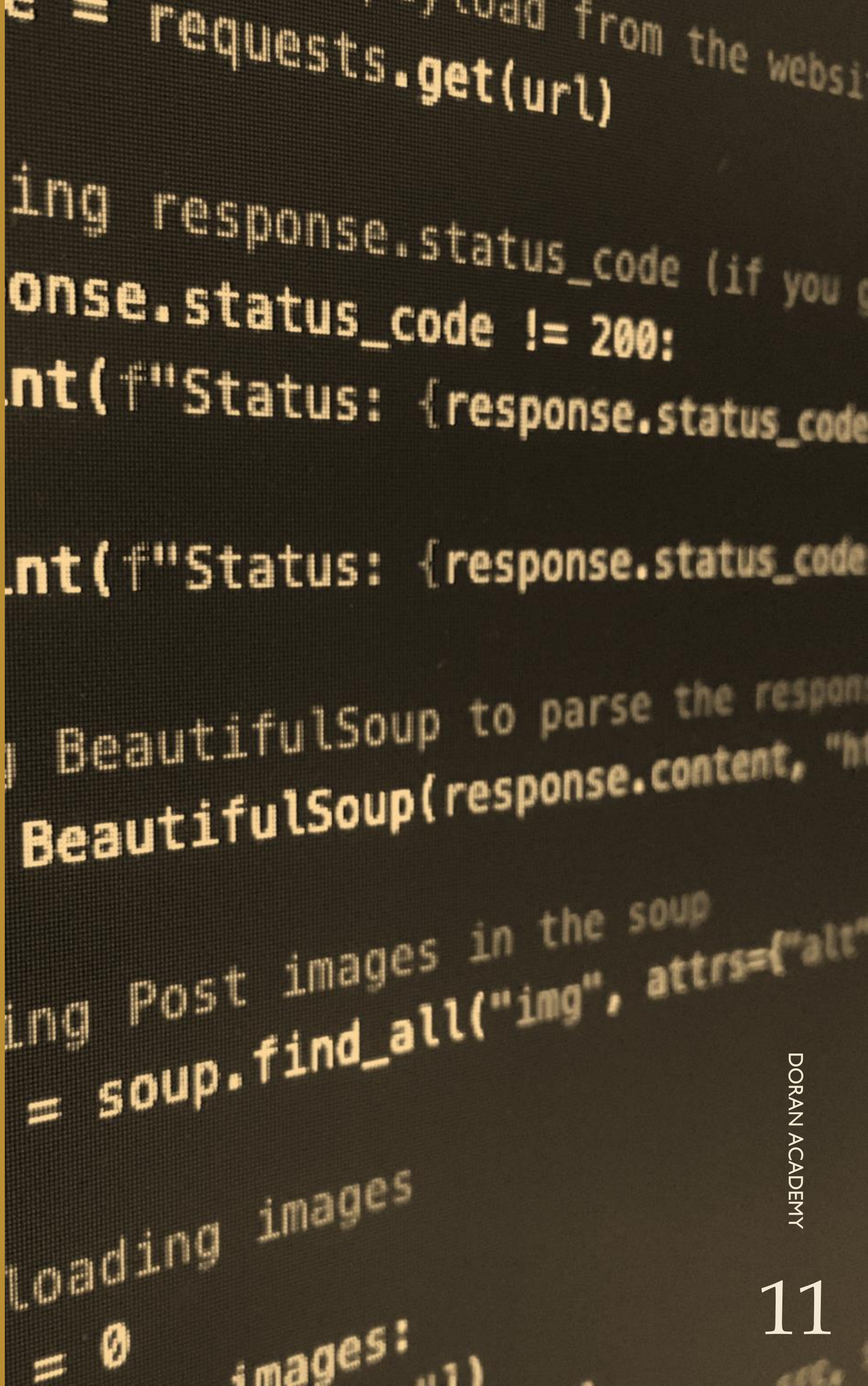
OBJECT ORIENTED PROGRAMMING – P2

- Getters and Setters
- Encapsulation
- Inheritance
- Subclasses and Overloading
- Calling Super Methods
- Overriding Methods
- Polymorphism
- Duck Test



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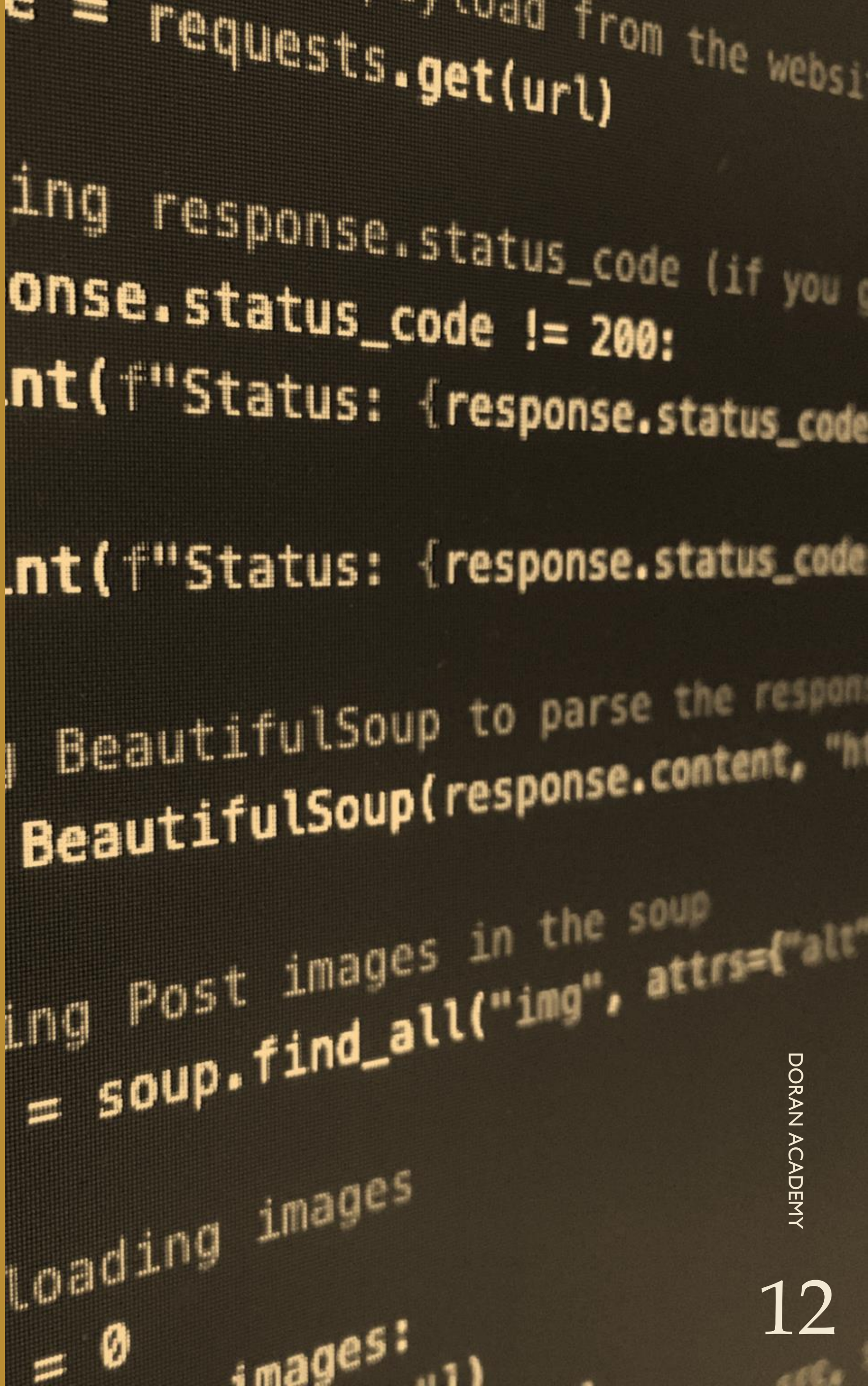
OBJECT ORIENTED PROGRAMMING – P3

- Composition
- Aggregation
- Delegation
- Abstract Classes and Interfaces



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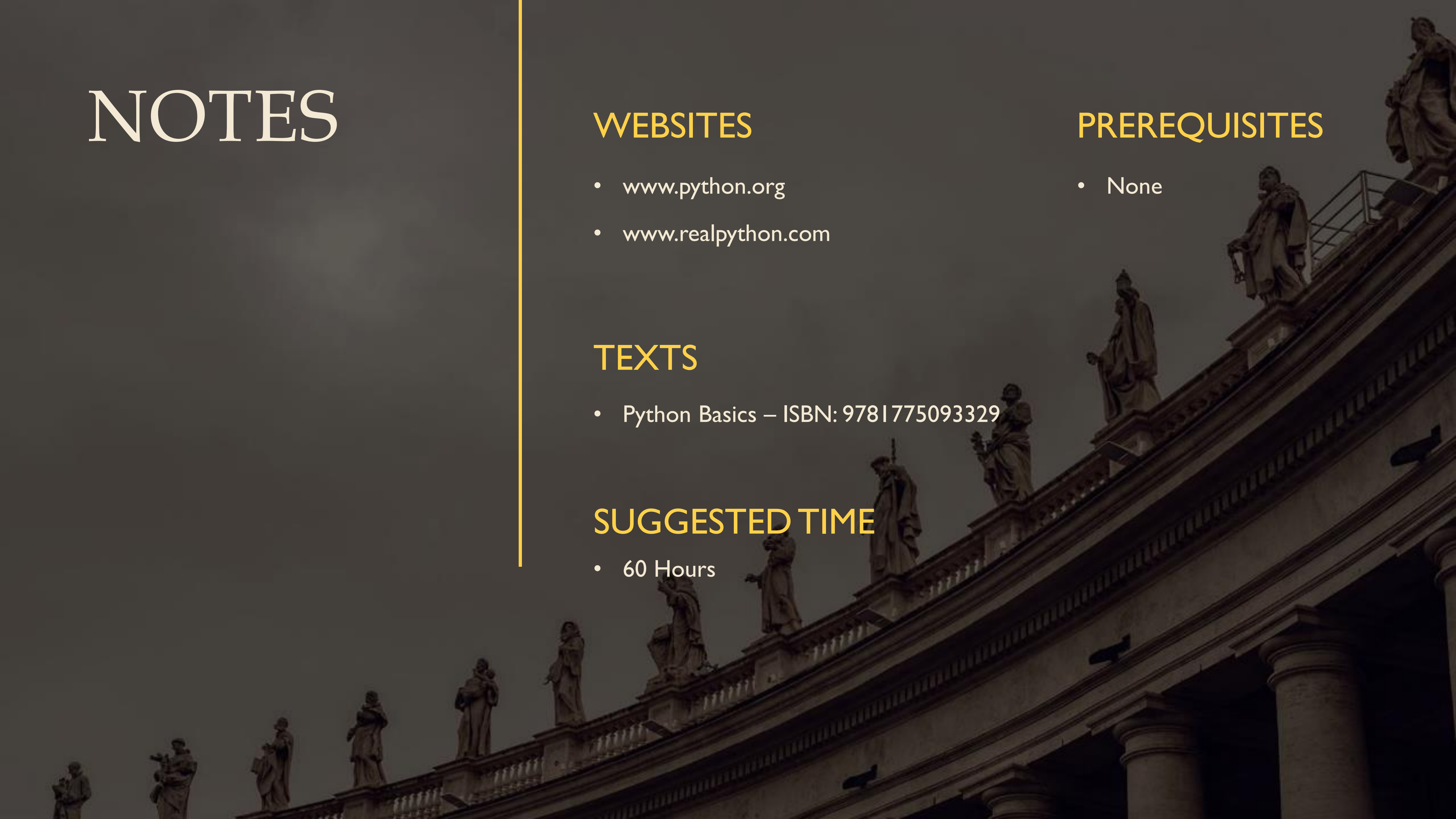

NOTES

WEBSITES

- www.python.org
- www.realpython.com

TEXTS

- Python Basics – ISBN: 9781775093329

SUGGESTED TIME

- 60 Hours

PREREQUISITES

- None

DOCUMENT HISTORY

Author	Version	Revision	Date / Time	Department	Validity
Mehdi Shokri	1.0.0		11-05-2023	Development	3 Months
Mehdi Shokri		1.0.1	16-05-2023	Development	3 Months