1. General Introduction - 1 hour

1.1. Introduction: The Way of the Program

1.2. Algorithms

1.3. The Python Programming Language

1.4. Comments

1.5. Python Conventions

1.6. Chapter Assessment

### 2. Variables, Statements, and Expressions - 3 hours

2.1. Introduction

2.2. Values and Data Types

2.3. Operators and Operands

2.4. Data Types

2.5. Type conversion functions

2.6. Variables

2.7. Variable Names and Keywords

2.8. Choosing the Right Variable Name

2.9. Statements and Expressions

2.10. Order of Operations

2.11. Reassignment

2.12. Input

* Glossary
* Exercises
* Chapter Assessment

### 3. Python Modules - 3 hours

3.1. Introduction to Python Modules

3.2. Modules

* Importing Modules
* Syntax for Importing Modules and Functionality

3.3. The random module

3.4. Glossary

3.5. Exercises

### 4. Sequences - 6 hours

4.1. Introduction: Sequences

4.2. Strings and Lists

* Strings
* Lists
* Tuples
* Set

4.3. Index Operator: Working with the Characters of a String

* Index Operator: Accessing Elements of a List or Tuple

4.4. Introduction: Dictionaries

4.5. Dictionary operations

4.6. Dictionary methods

4.7. Length

4.8. The Slice Operator

* List Slices
* Tuple Slices

4.9. Concatenation and Repetition

4.10. Count and Index

* Count
* Index

4.11. Splitting and Joining Strings

4.12. Tuple packing and unpacking

4.13. Exercises

4.14. Chapter Assessment

### 5. Iteration - 6 hours

5.1. Introduction: Iteration

5.2. The for Loop

5.3. Flow of Execution of the for Loop

5.4. Strings and for loops

5.5. Lists and for loops

5.6. The Accumulator Pattern

5.7. Traversal and the for Loop: By Index

5.8. While Loops

5.10. Break and Continue

* Glossary
* Exercises
* Chapter Assessment

### 6. Conditionals - 4 hours

6.1. Intro: Conditionals

6.2. Boolean Values and Boolean Expressions

6.3. Logical operators

6.4. The in and not in operators

6.5. Precedence of Operators

6.6. Conditional Execution: Binary Selection

6.7. Chained Condition

* Glossary
* Exercises
* Chapter Assessment

### 7. File Handling - 4 hours

7.1. Introduction: Working with Data Files

7.2. Reading a File

7.3. Alternative File Reading Methods

7.4. Iterating over lines in a file

7.5. Using with for Files

7.6. Writing Text Files

7.7. CSV Format

7.8. Reading in data from a CSV File

7.9. Writing data to a CSV File

* Glossary
* Exercises
* Chapter Assessment

### 8. Functions - 3 hours

8.1. Introduction to Functions

8.2. Function Definition

8.3. Function Invocation

8.4. Function Parameters

8.5. Returning a value from a function

8.6. A function that accumulates

8.7. Variables and parameters are local

8.8. Global Variables

8.9. Flow of Execution Summary

* Glossary
* Exercises
* Chapter Assessment

9. Exceptions - 1 hours

9.1. What is an exception?

9.2. Exception Handling Flow-of-control

* Raising and Catching Errors

9.3. When to use try/except

9.4. Standard Exceptions

9.5. Exercises

9.6. Chapter Assessment

10. Advance Function - 1 hours

10.1. Optional Parameters

10.2. Keyword Parameters

10.3 Anonymous functions with Lamba expression

11. More Accumulation: Map, Filter, List comprehension, Zip – 3 hours

11.1. Map

11.2. Filter

11.3 List Comprehension

11.4. Dictionary Comprehension

11.5. Zip