

Summary

For courses in Python Programming Introduces Python programming with an emphasis on problem-solving Now in its Third Edition, Practice of Computing Using Python continues to introduce both majors and nonmajors taking CS1 courses to computational thinking using Python, with a strong emphasis on problem solving through computer science. The authors have chosen Python for its simplicity, powerful built-in data structures, advanced control constructs, and practicality. The text is built from the ground up for Python programming, rather than having been translated from Java or C++. Focusing on data manipulation and analysis as a theme, the text allows students

to work on real problems using Internet-sourced or self-generated data sets that represent their own work and interests. The authors also emphasize program development and provide both majors and non-majors with a practical foundation in programming that will be useful in their respective fields. Among other changes, the Third Edition incorporates a switch to the Anaconda distribution, the SPYDER IDE, and a focus on debugging and GUIs. MyProgrammingLab (TM)not included. Students, if MyProgrammingLab is a recommended/mandatory component of the course, please ask your instructor for the correct ISBN and course ID. MyProgrammingLab should only be purchased when required by an instructor. Instructors, contact your Pearson representative for more information. MyProgrammingLab is an online learning system designed to engage students and improve results. MyProgrammingLab consists of a set of programming exercises correlated to specific Pearson CS1/Intro to Programming textbooks. Through practice exercises and immediate, personalized feedback, MyProgrammingLab improves the programming competence of beginning students who often struggle with the basic concepts of programming languages.

Table of contents

I. Thinking About Computing

0. The Study of Computer Science

II. Starting to Program

- 1. Beginnings
- 2. Control
- 3. Algorithms and Program Development

III. Data Structures and Functions

- 4. Working with Strings
- 5. Functions-QuickStart
- 6. Files and Exceptions I
- 7. Lists and Tuples
- 8. More on Functions
- 9. Dictionaries and Sets
- 10. More Program Development

IV. Classes, making your own Data Structure and Algorithms

- 12. More on Classes
- 13. Program Development with Classes

V. Being a better programmer

- 14. Files and Exceptions II
- 15. Recursion: Another Control Mechanism
- 16. Other Fun Stuff with Python
- 17. The End, or Perhaps the Beginning