

# Python® for Programmers

by Paul Deitel & Harvey Deitel

## PART 1 Python Fundamentals Quickstart

### 1. Introduction to Computers and Python

DS Intro: AI—at the  
Intersection of CS and DS

### 2. Introduction to Python Programming

DS Intro: Basic Descriptive Stats

### 3. Control Statements

DS Intro: Measures of Central  
Tendency—Mean, Median, Mode

### 4. Functions

DS Intro: Basic Statistics—  
Measures of Dispersion

### 5. Lists and Tuples

DS Intro: Simulation and  
Static Visualization

## PART 2 Python Data Structures, Strings and Files

### 6. Dictionaries and Sets

DS Intro: Simulation and  
Dynamic Visualization

### 7. Array-Oriented Programming with NumPy High-Performance NumPy Arrays

DS Intro:  
Pandas Series and DataFrames

### 8. Strings: A Deeper Look Includes Regular Expressions

DS Intro: Pandas,  
Regular Expressions and  
Data Wrangling

### 9. Files and Exceptions

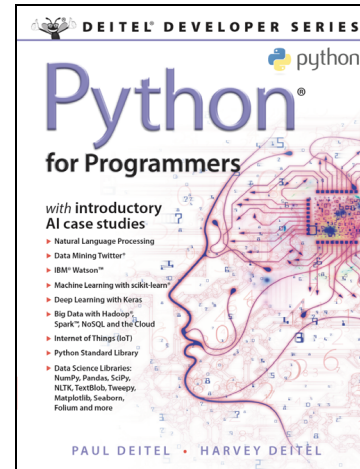
DS Intro: Loading Datasets from  
CSV Files into Pandas DataFrames

## PART 3 Python High-End Topics

### 10. Object-Oriented Programming

DS Intro: Time Series and  
Simple Linear Regression

### CS and DS Other Topics Blog



## PART 4 Introductory AI, Big Data and Cloud Case Studies

### 11. Natural Language Processing (NLP) Web Scraping in the Exercises

### 12. Data Mining Twitter® Sentiment Analysis, JSON and Web Services

### 13. IBM® Watson™ and Cognitive Computing

### 14. Machine Learning: Classification, Regression and Clustering

### 15. Deep Learning Convolutional and Recurrent Neural Networks

### 16. Big Data: Hadoop®, Spark™, NoSQL and IoT

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1. This book is for experienced professional developers who already know another object-oriented programming language.

2. This book does not contain introductory programming discussions for novices and does not have exercises.

3. Light-tinted bottom boxes in Chapters 1–10 marked DS Intro

are brief, introductions to data-science topics.

4. Chapters 11–16 are Python-based, AI, big data and cloud data science chapters, each with several case studies.

5. Functional-style programming is integrated book wide.

6. Extensive visualizations.

7. Code is available in `.py` Python files and `.ipynb` Jupyter Notebooks files.