PREV
Appendix B. Python cheat sheet

NEXT
Thinking like a programmer: big ideas

Appendix C. Interesting Python libraries

Libraries you've seen

Name	Description
math	Mathematical operations
random	Operations with pseudo-random numbers
time	Operations that use the clock
unittest	Framework for adding tests
tkinter	Working with graphical user interfaces

Other interesting libraries

Name	Description
numpy	Advanced mathematical operations: • Make multidimensional arrays of data and matrices • Populate arrays with all zeros, random numbers, and so forth • Do array mathematical operations on elements or pairs • Reshape arrays
scrapy	For web scraping: • Crawl websites and extract data • Can export data in multiple standard formats (CSV, JSON, XML)
matplotlib	Making plots and graphs: • Make bar graphs, line graphs, histograms, boxplots, pie charts, scatter plots, pie charts • Make images, contours, stream plots • Add text, labels, axes, legends, change data markers
pygame	2D game development: • Can add images, draw shapes, load cursors • Manage events based on joystick, mouse, or keyboard input • Manipulate sounds, images, and timing • Transform images by scaling, rotating, or flipping
scipy	Scientific computing tools and algorithms: • Solve integrals, differential equations, and optimizations • Can cluster data, do signal processing (and distortions on images), and various statistical analyses
smtplib	Email: • Set up data and compose an email message with headers • Authenticate and encrypt

Name	Description
pillow	Working with images: • Create thumbnails, convert formats, print • Process images (resize, rotate, change contrast and brightness, perform distortions)
wxpyton	Working with graphical user interfaces (alternative to tkinter)
pyqt	Working with graphical user interfaces (alternative to tkinter)
nltk	Natural Language Toolkit: • Analyze words, sentences, text • Mark a word as corresponding to a part of speech • Extract names from text into categories (person, place, time, quantity, and so forth)
basemap	Plot 2D data on maps: • Extension of matplotlib • Plot coast lines, continents, countries • Draw points and contours • Read point data to draw polygons
sqlalchemy	Databases: • Interface for interacting with a database in an object-oriented way
pandas	Data analysis: • Work with tabular data, time-series data, matrix data, statistical data