Appendix A8

Getting Started with Third-Party Packages

A8.1 Overview

In this book, we use several third-party packages in Parts II and III. A third-party package is a software library that is not part of the core Python distribution. However, software distributions (e.g., Anaconda) and environments (e.g., Google Colab) come with many packages pre-installed.

There are thousands of third-party packages available for Python. These are available in a central repository called PyPI (Python Package Index), which makes it easy to find and install packages. In this book, we've used several third-party packages; the complete list is indicated later in this appendix.

A8.2 Installing Packages

The pip utility works in conjunction with PyPI to let you install packages in your Python environment. With pip, you can: see what packages you have installed (including their versions), install a package, upgrade a package's version, and remove a package from your installation.

If you have installed Anaconda, you already have most of the packages used in this book, except for the python-dotenv and google-genai packages. Further, if you decide to work with another package that is not yet available to you, you can install that package.

To install a package on your computer using pip, you can use your computer's command line prompt, available from the Windows Command Prompt or Mac Terminal application. At the command line, use:

```
pip install <package>
```

where `<package>` is the name of the package to install. For example:

```
pip install python-dotenv
```

will install the python-dotenv package on your computer (if it is not already installed).

If you're using a notebook tool (e.g., Jupyter Notebook or Google Colab), you can run pip in a notebook cell by using a preceding exclamation point. For example:

```
[1]: !pip install python-dotenv
     Collecting python_dotenv
       Downloading python_dotenv-1.0.1- py3-none-any.whl (19 kB)
     Installing collected packages: python-dotenv
     Successfully installed python-dotenv-1.0.1
```

An integrated development environment (IDE) may also provide an interactive way to install packages. This varies depending on which IDE you use. See the corresponding appendix in this book or your IDE's documentation.

A8.3 Packages Used in This Book

Table A8-1 lists all the third-party packages used in this book. In order to use a package, in addition to having the package installed in your Python environment, you need to use the import statement in your program. The import statement is described in Appendix B.

The name of the package is what you use to install, upgrade, or remove a package from your Python environment. In most cases, the package name is the same name you use in an import statement. In some cases, the import name differs from the package name; this is noted in Table A8-1.

Area	Package	Import name	Chapters
Core	pandas		10–18
	numpy		10, 11, 15, 17–19
	scipy		17
Web	beautifulsoup4	bs4	12
	requests		12–13
Database	sqlite3*		14
Excel	openpyxl		15
Visualization	matplotlib		16–17, 19
	seaborn		16
Statistics	scikit-learn	sklearn	18
Text Analytics	nltk		18
	google-genai	google.genai	13
Environment	python-dotenv	dotenv	13–14

Table A8-1: Packages used in the book

* The sqlite3 module is included with the core Python distribution.