C1

Preliminaries

CHAPTER ASSIGNMENT

Name _____ Class _____ No. _____ Date _____

> Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from the Guru Jazzy chapter page (based on *Python for Data Analysis*, 3rd edition, Wes McKinney, O'Reilly).

1.1 What Is This Book About?

1. List three datasets you use outside of programming (a class register, a phone bill, a sports table). For each, name its rows and three of its columns.

2. Which of the four kinds of structured data is each one: tabular, multidimensional array, multiple linked tables, or time series? Some fit more than one.

1.2 Why Python for Data Analysis?

1. In one sentence each, explain "glue language" and "two-language problem" to someone who has never programmed.

2. Name one job where Python would be a poor choice and say why (hint: think about speed or many things happening at once).

1.3 Essential Python Libraries

1. For each task, name the library you would reach for first: reading a CSV, multiplying two big matrices, drawing a bar chart, fitting a linear regression, training a classifier.

2. Use the explorer below to open every library, then write its import line from memory without looking.

1.4 Installation and Setup

1. Create an environment called pydata-book and install pandas, jupyter and matplotlib. Start Python and run import pandas as pd; print(pd.__version__).

2. Start a notebook with jupyter notebook (or open a .ipynb in VS Code) and run one cell that prints the NumPy and pandas versions.

1.5 Navigating This Book

1. Download the pydata-book repository and load examples/ex1.csv with pd.read_csv. Print the first rows with .head().

2. Make a "starter cell" with the import conventions and print options above, and paste it at the top of every notebook in this course.

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import statsmodels as sm

np.set_printoptions(precision=4, suppress=True)
pd.options.display.max_rows = 20
```

End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/books/python-for-data-analysis/chapter-1-preliminaries/