**AI-powered data manipulation EXERCISE**

Using either Flash Fill *or* Column from Example:

* Find the city name from each column (Houston, Atlanta, Los Angeles, etc)
* Find the initials for each time (HA, AB, LAD, etc)

File: ai-powered-data-manipulation-exercise.xlsx

**AI-powered data entry and forecasting EXERCISE**

* Create a population forecast for the selected European countries
* Enhance your data with linked data types

File: ai-powered-data-manipulation-exercise.xlsx

**AI-powered data analysis and visualization EXERCISE**

* Prepare data for optimal Analyze Data use
* Visualize total state population over time

File: ai-powered-data-analysis-visualization-exercise.xlsx

**Python in Excel: First steps EXERCISE**

1. Load the penguins dataset into a DataFrame called penguins\_df
2. Check the resulting dataset’s columns: run penguins\_df.columns. Swith the output to display in Excel
3. Visualize relationship b/w bill length and body mass: run sns.scatterplot(x='bill\_length\_mm', y='body\_mass\_g', data=penguins\_df). Practice resizing this plot.

File: python-excel-first-steps-exercise.xlsx

**From “that’s hard in Excel” to “that’s easy in Python” analysis EXERCISE**

* Explore relationship between sales, temperature, customer count over time
* Fill in the blanks to complete the code

File: hard-excel-easy-python-analysis-exercise.xlsx

**There’s more to Python *and* Excel than Python *in* Excel EXERCISE**

* Automate production of a workbook comparing website visitors versus rating
* Fill in the blanks to create the script

File: pae-pie-exercise.ipynb