Module-03, Python for Data Analysis

Data Visualization (matplotlib-Potting)

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Data science and Artificial Intelligence
3-Months Course
at
Karakaroum international Univrsity

January 2, 2024

Table of Contents

A Brief on matplotlib

Making informative visualizations (sometimes called plots) is one of the most important tasks in data analysis.
Python has many add-on libraries for making static or dynamic visualizations, but I'll be mainly focused on matplotlib and libraries that build on top of it.
matplotlib is a desktop plotting package designed for creating (mostly two dimensional) publication-quality plots. Additionally can export visualizations to all of the common vector and raster graphics formats (PDF, SVG, JPG, PNG, BMP, GIF, etc.). And all of the graphics in this lecture were produced using matplotlib.
The simplest way to follow the code examples in the lab is to use interactive plotting in the Jupyter notebook

Line Plot

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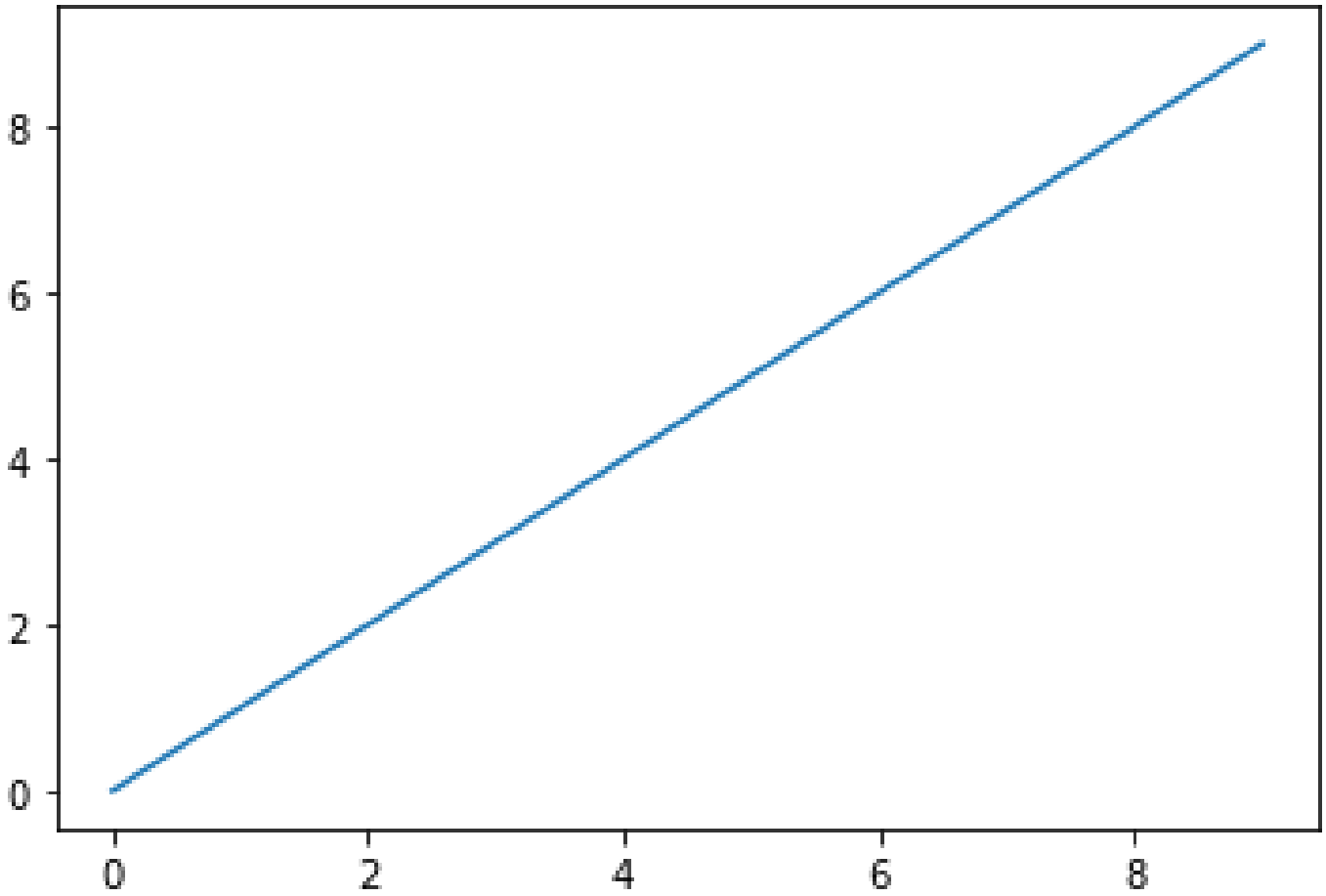

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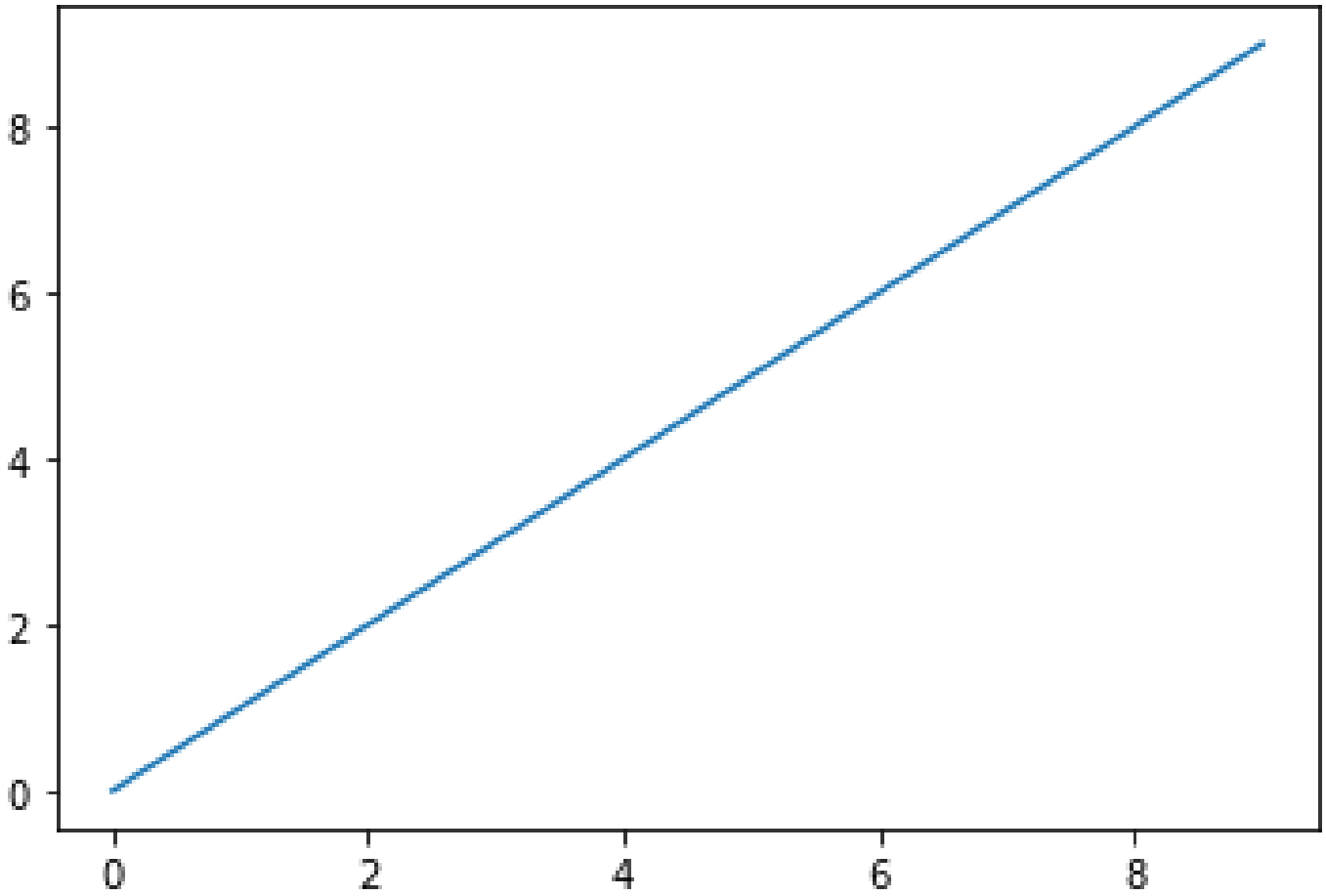

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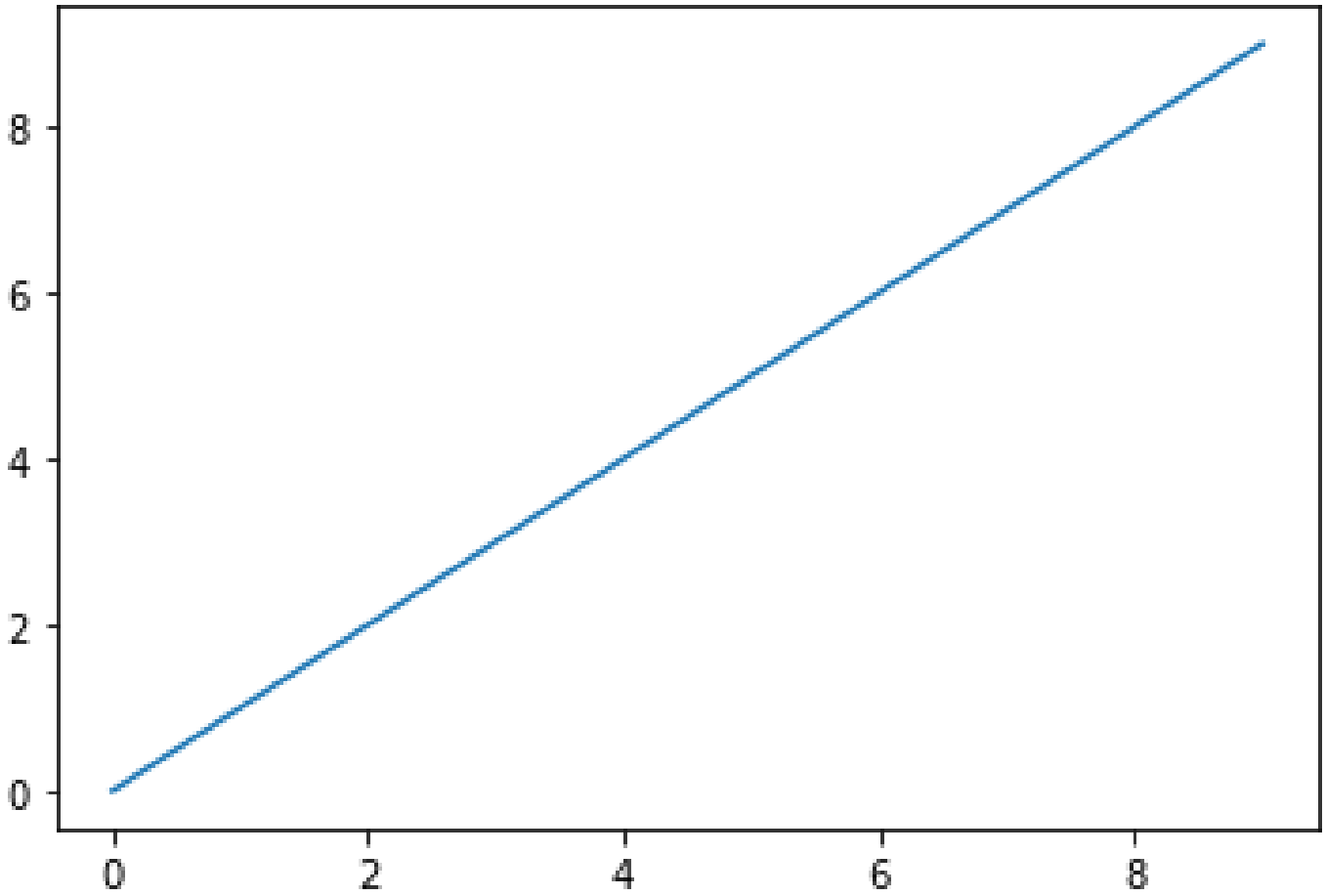

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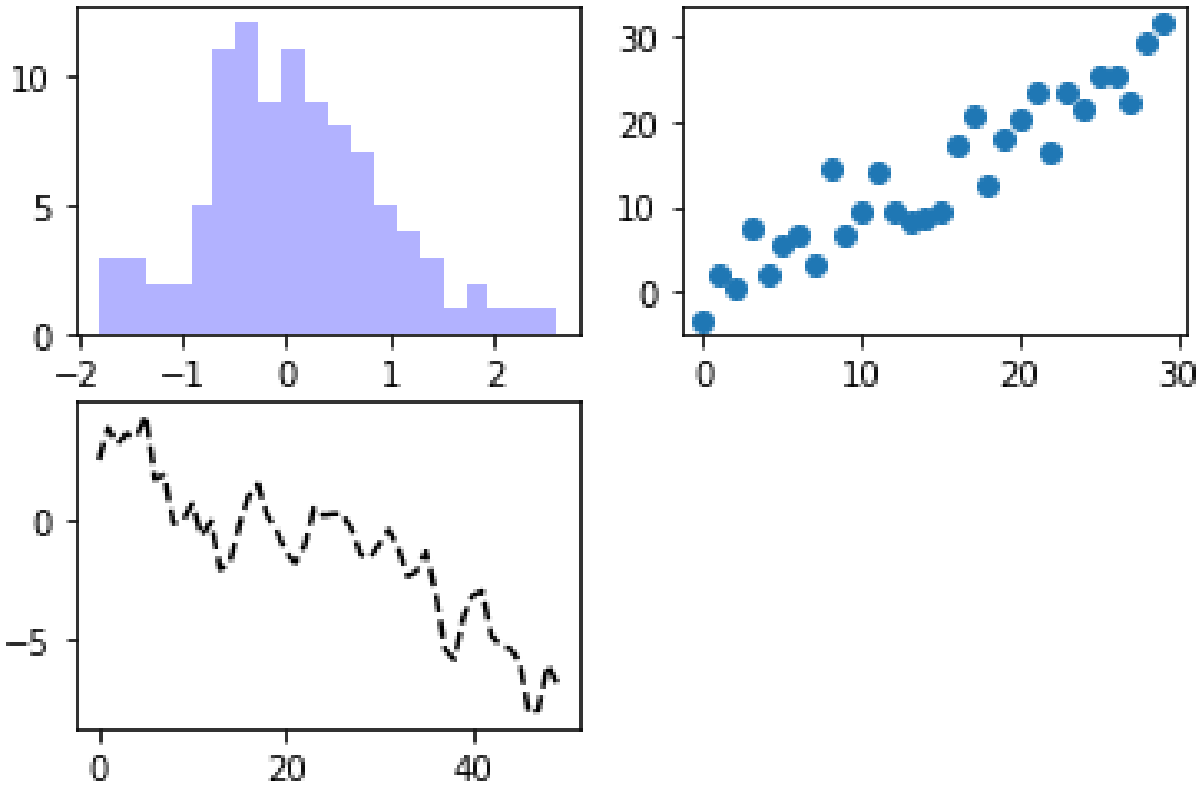

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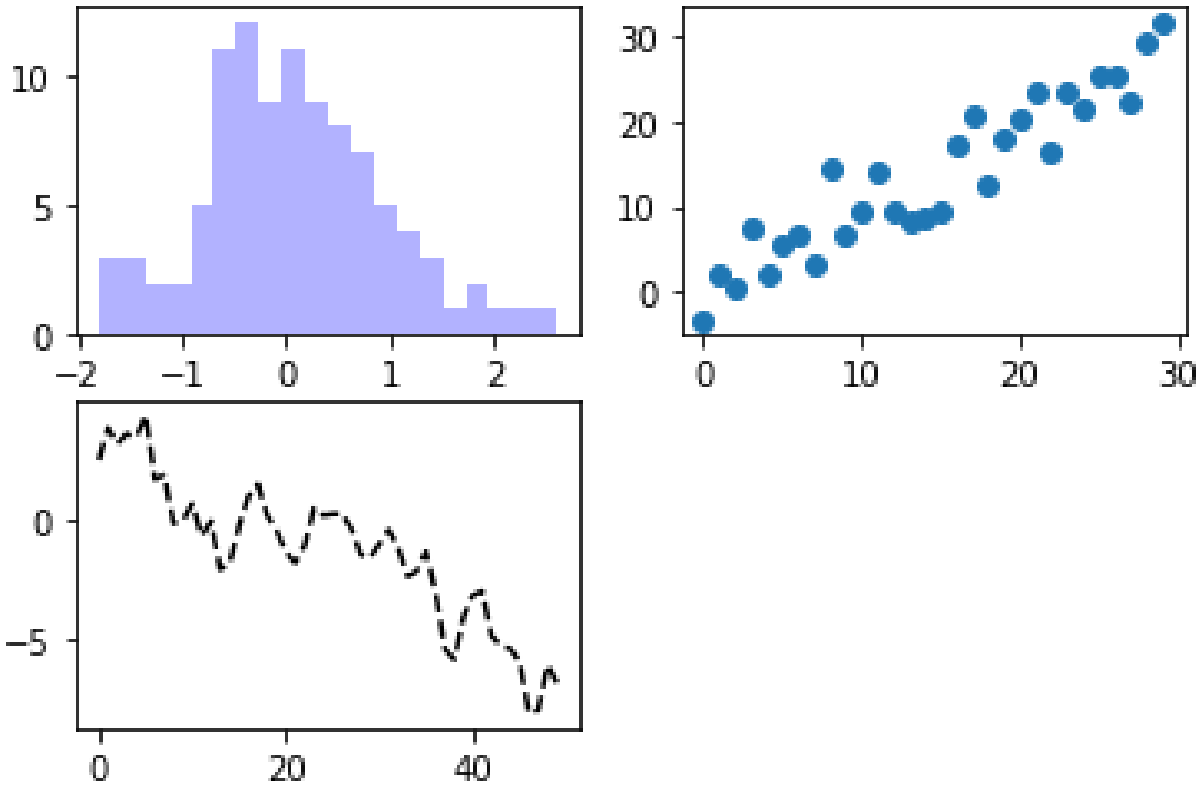

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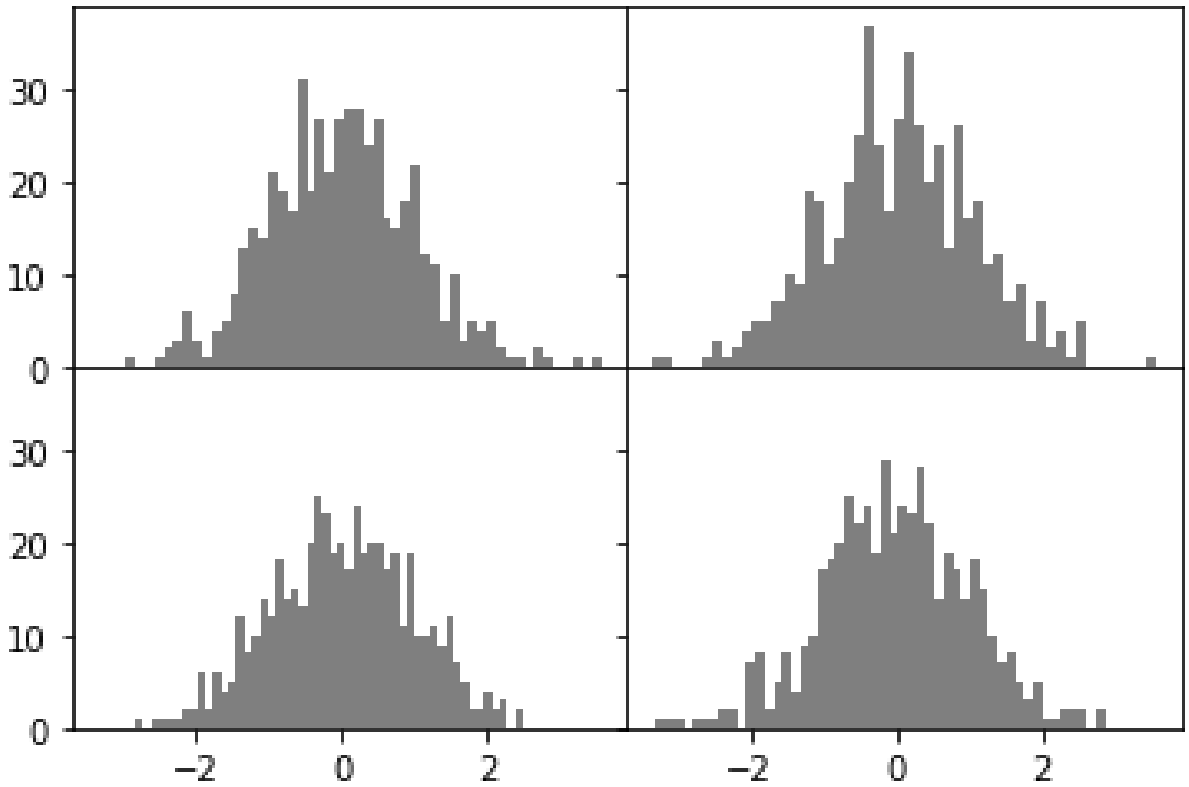

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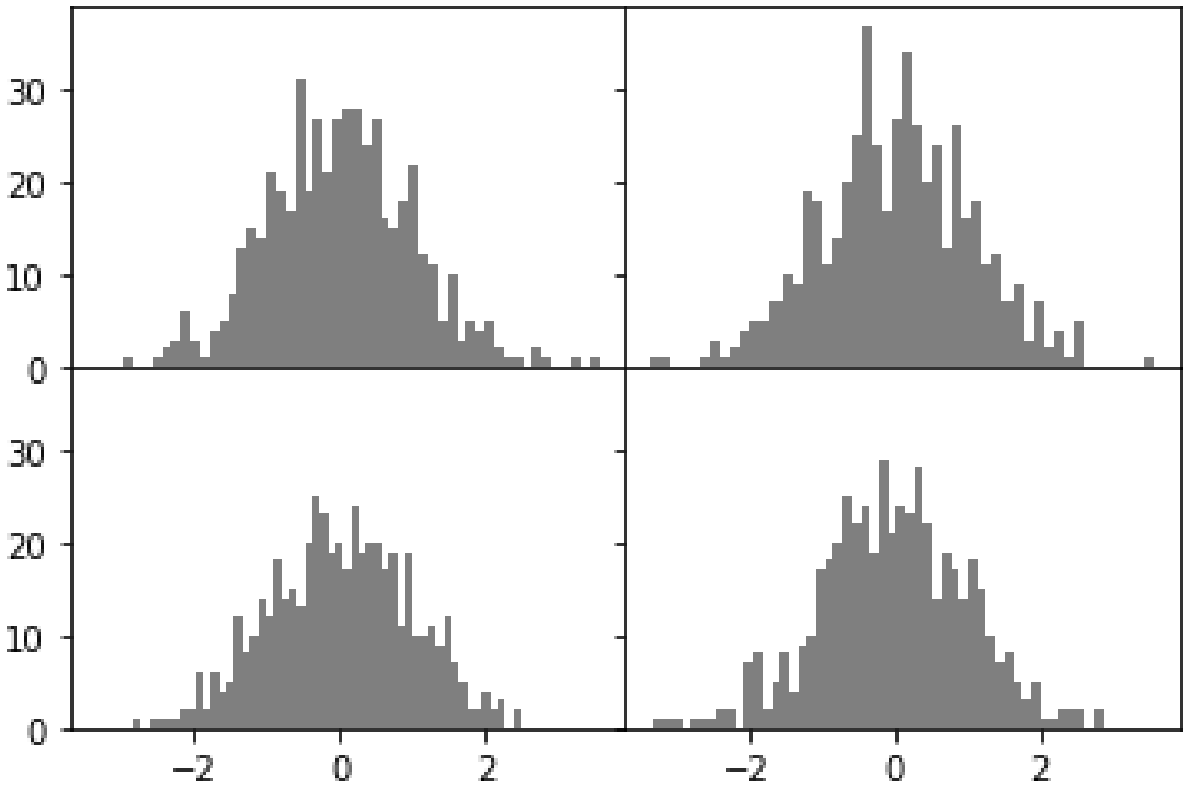

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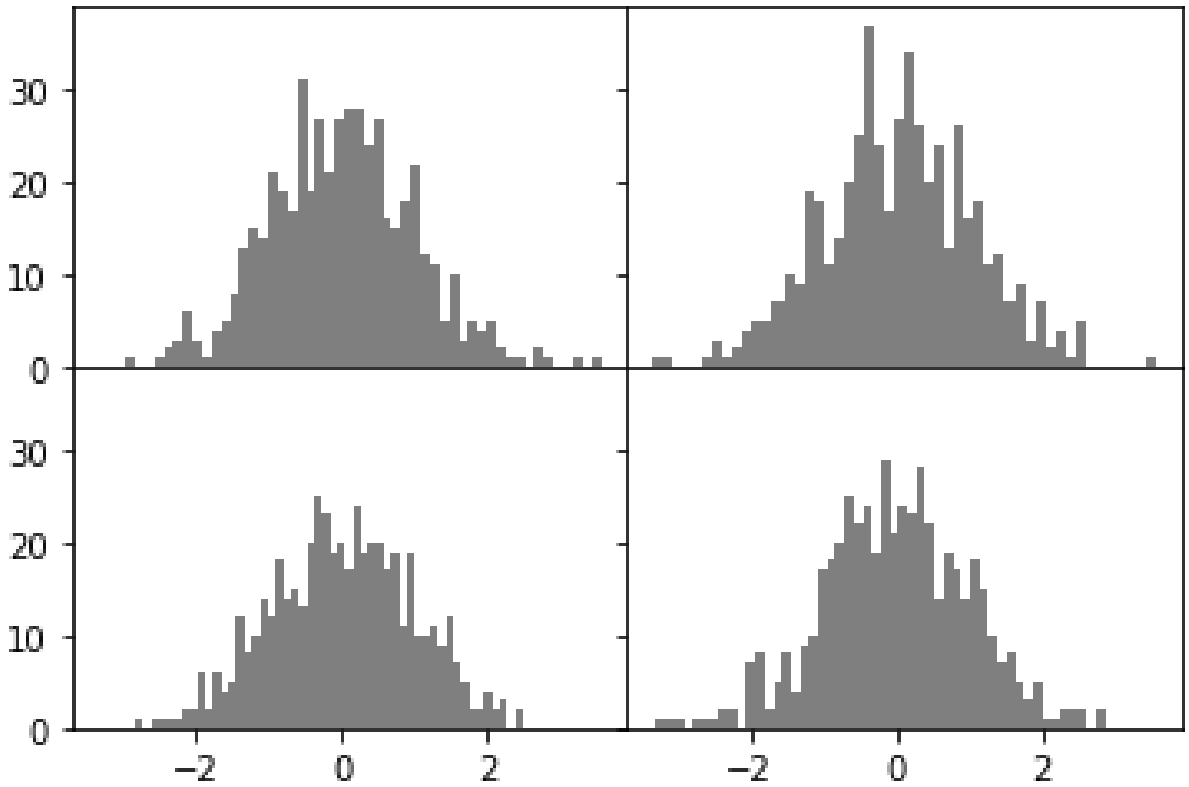

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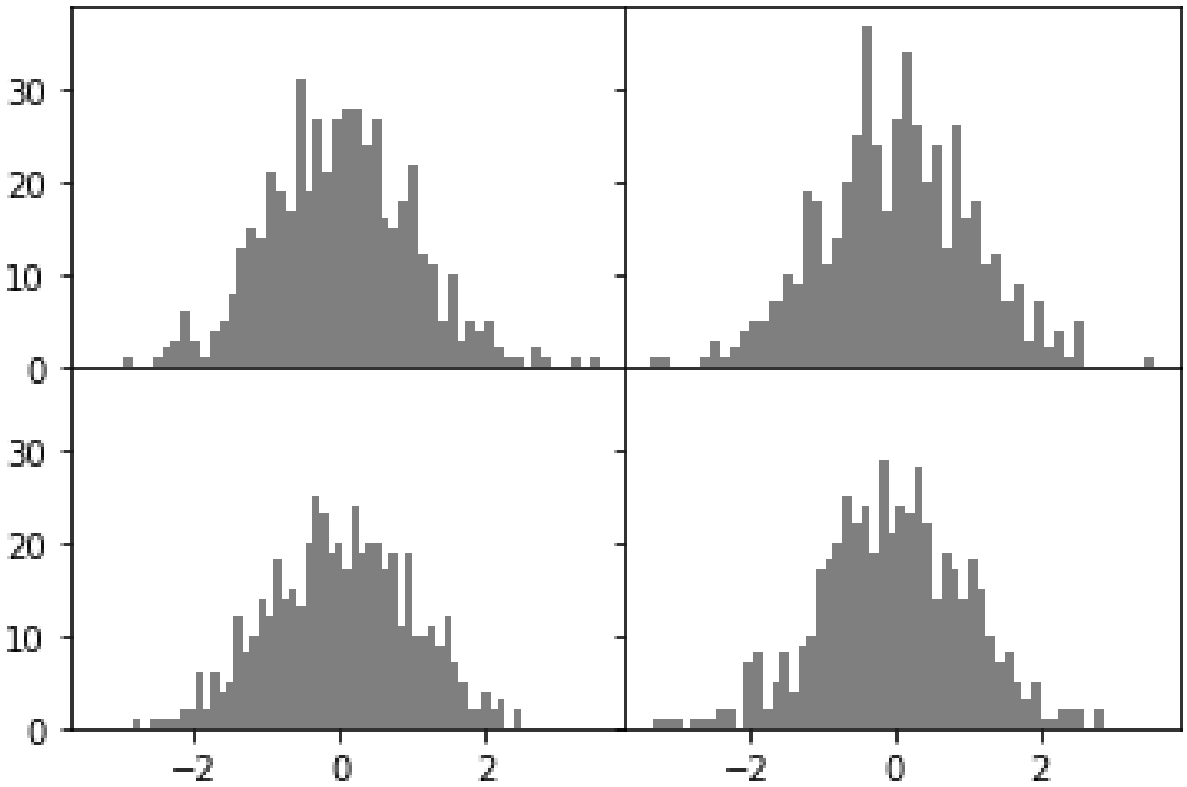

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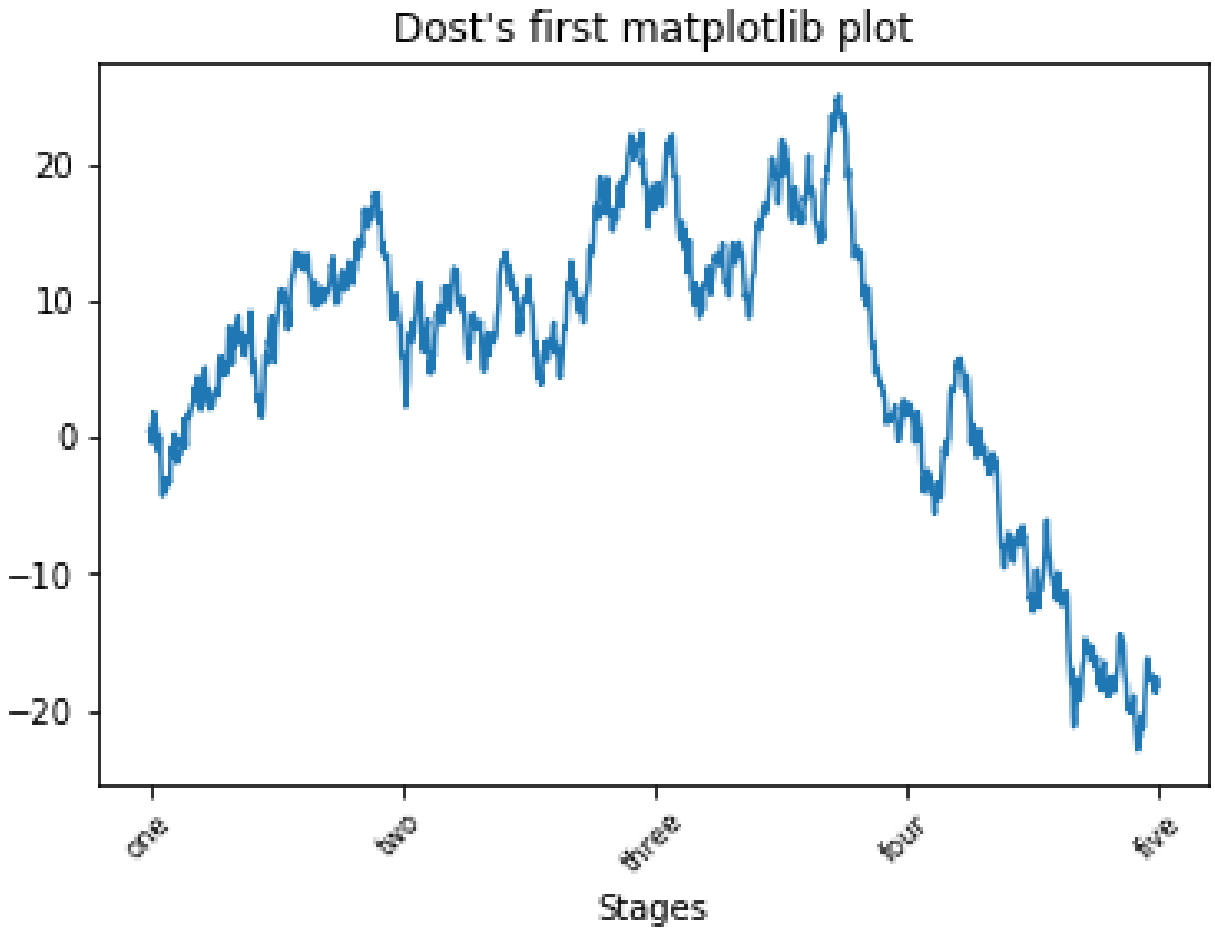

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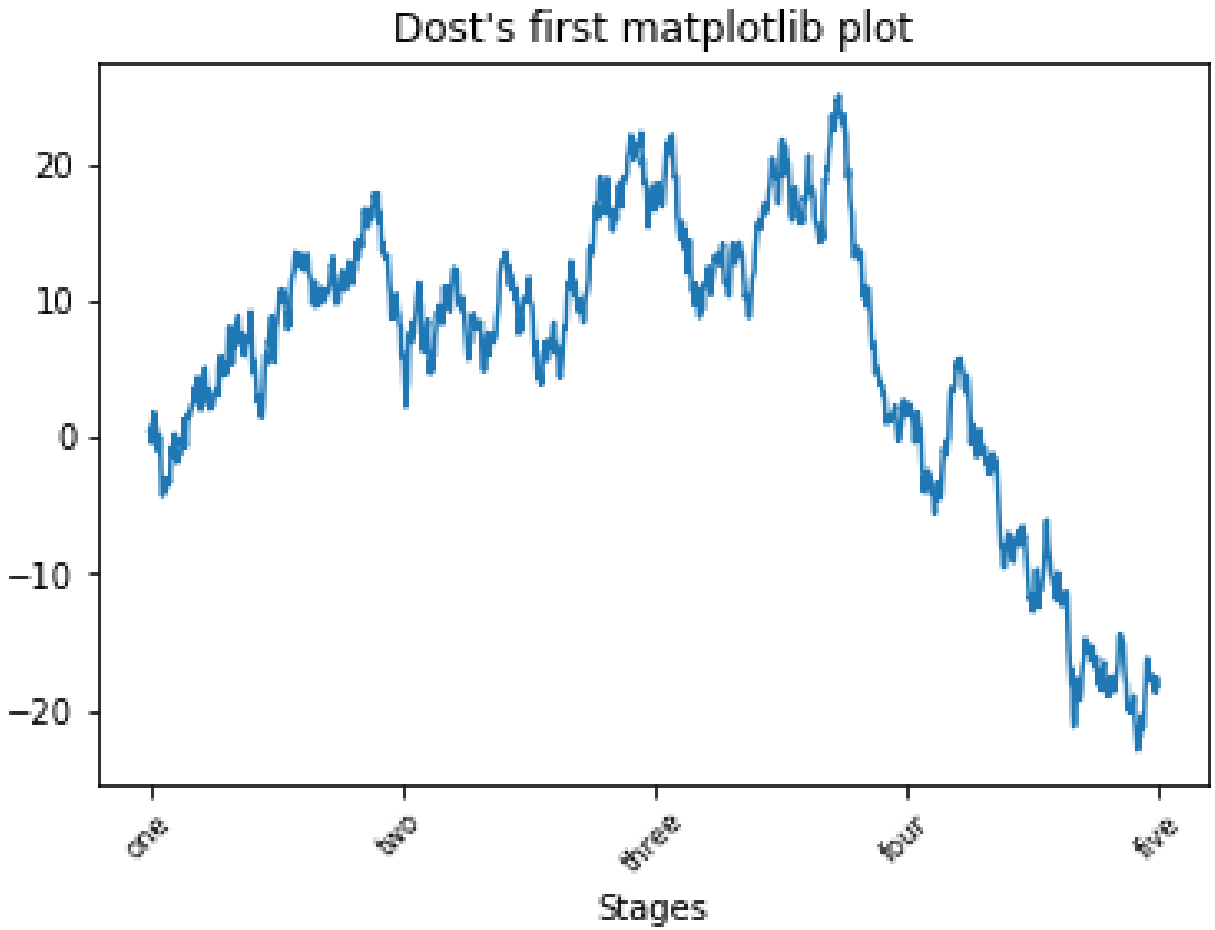

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Pandas Built-in

Now, we will learn about pandas built-in capabilities for data visualization! It's built-off of matplotlib, but it baked into pandas for easier usage! There are several plot types built-in to pandas, most of them statistical plots by nature:

- df.plot.area, df.plot.barh, df.plot.density, df.plot.hist
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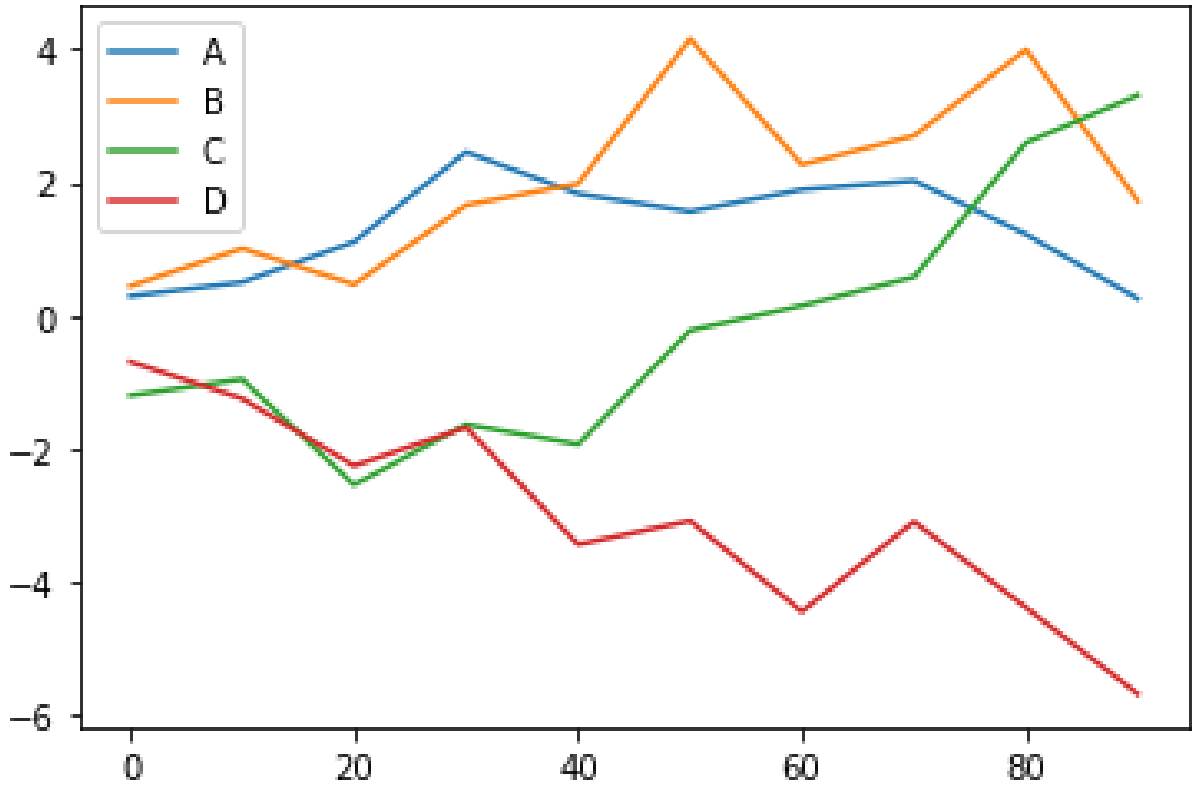

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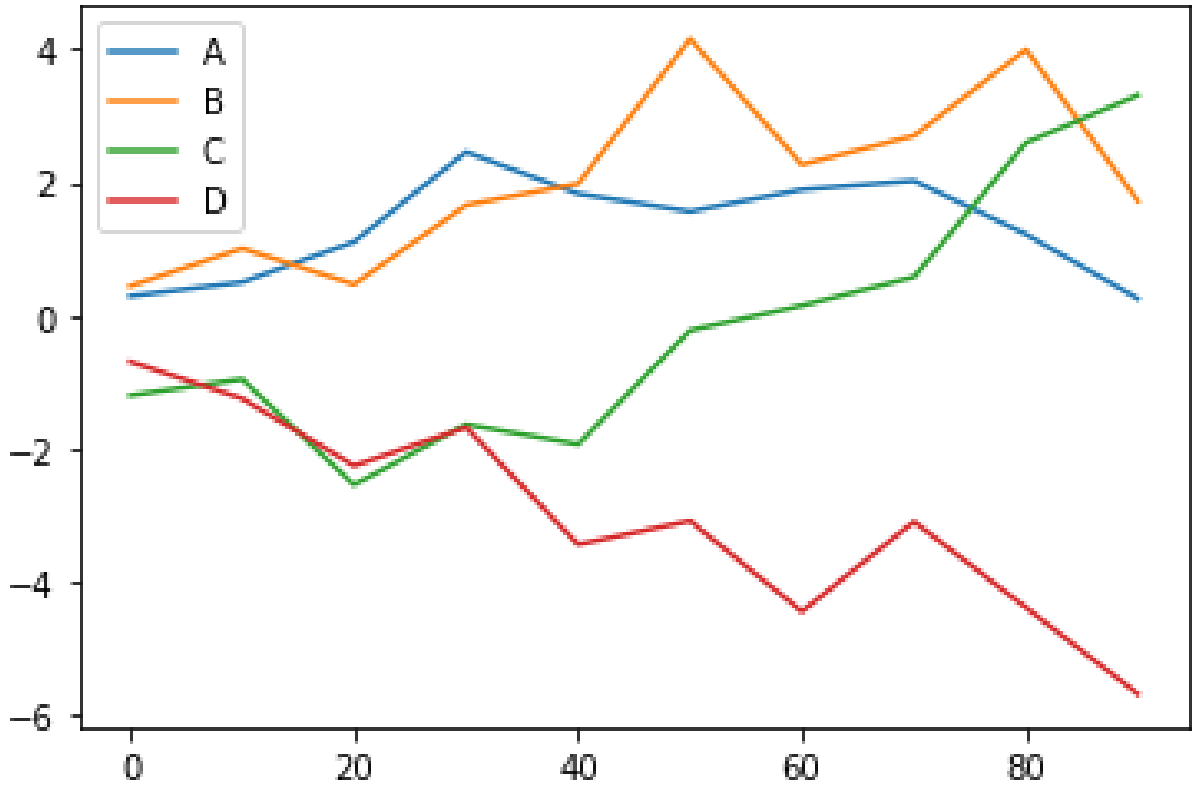

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