

LECTURE 26

MATPLOTLIB II

MCS 275 Spring 2023

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LECTURE 26: MATPLOTLIB II

Reminders and announcements:

- [Project 3](#) due today at 6pm.
- Next big topic is **databases**
- Spring break next week, no classes or office hours

GALLERY

The matplotlib home page has a nice [gallery of examples with source code](#). It can be especially helpful if you know what you want something to look like, but don't know what it is called.

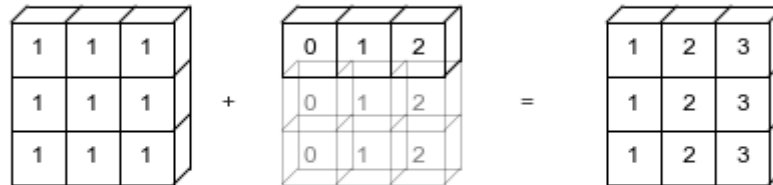
BROADCASTING

This figure from §2.5 of [Python Data Science Handbook](#) by [Jake VanderPlas](#) was made with Matplotlib!

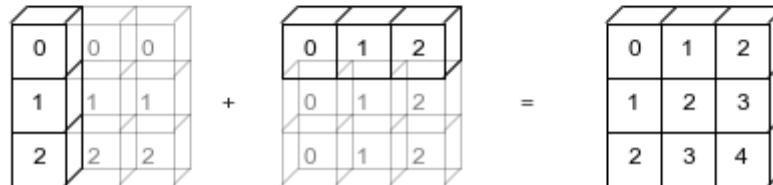
`np.arange(3)+5`



`np.ones((3, 3))+np.arange(3)`



`np.arange(3).reshape((3, 1))+np.arange(3)`



TODAY

- Scatter plots
- Contour plots
- Density plots

→ [Matplotlib demo notebook](#) ←

MAIN PLOTTING COMMANDS

- `plt.plot(xvals,yvals,...)` — plot line, points, or both
- `plt.scatter(xvals,yvals,...)` — plot points with individual size/color control
- `plt.contour(xgrid,ygrid,zgrid)` — contour (topographical) map of function of (x,y)
- `plt.imshow(zgrid,extent=[...],origin="lower")` — density plot of a grid of values

Most other commands adjust or annotate plots made with these commands.

REFERENCES

- [Python Data Science Handbook by Jake VanderPlas](#)
 - [Chapter 2: Numpy](#)
 - [Chapter 4: Matplotlib](#)
- [matplotlib home page](#), including [documentation](#).

REVISION HISTORY

- 2022-03-18 Last semester's lecture on this topic finalized
- 2023-03-17 Updated for 2023



Have a great spring break!

