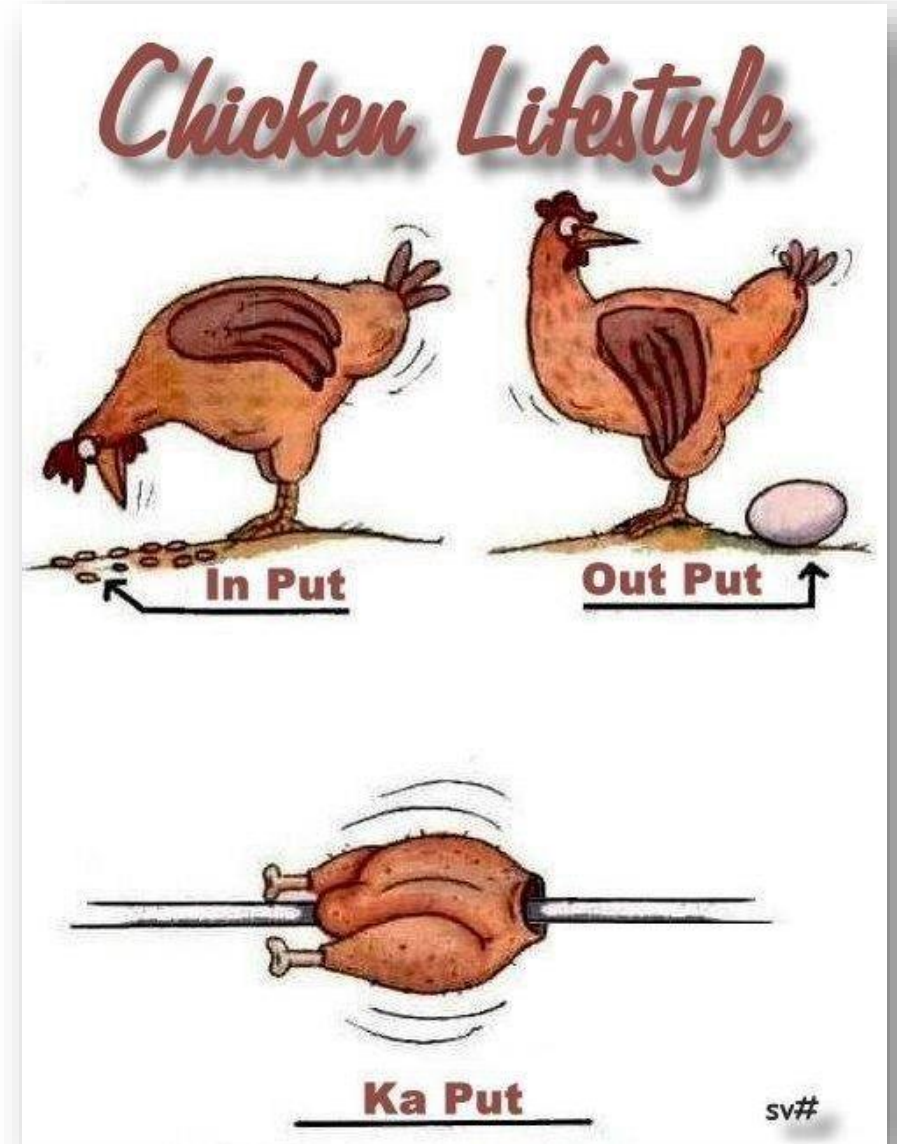


Images, audiofiles, and movies

# INPUT/OUTPUT SPECIALS



# Topics

- **Introduction:** GUI and basic calculations
- **Coding 1:** Scripts, style, and variable classes
- **Coding 2:** Control statements and loops
- **Visualization 1:** Basics, subplots, get and set
- **Coding 3:** Functions
- **Visualization 2:** Descriptive plots
- **Coding 4:** Basic input and output
- **Visualization 3:** Distribution and 3D plots
- **Coding 5: Input and output specials – last lecture before holidays**
- **Machine Learning 1:** Introduction and dimension reduction
- **Machine Learning 2:** Clustering
- **Machine Learning 3:** Classification
- **Coding 6:** Efficiency and debugging basics
- **Coding 7:** Advanced functions and debugging

# Special Data

- Imread/imwrite for image data
  - Images are 3D matrices ([r,g,b] color for every 2D pixel)
- Audioread/audiowrite for reading audio data
  - Audiofiles are vectors of wav data with a specific sampling rate

# Extra Special: Movies

- `movieMatrix(i) = getframe`
  - Captures current plot axes or figure as a movie frame
  - Change your plot a little and save `getframe` all the time
- `movie(movieMatrix,n,fps);`
  - Plays the movie `n` times at `fps` frames per second
- `VideoWriter(filename);`
  - Quality, framerate, other adjustable
  - Like `fopen`, opens a moviefile and then writes the video, needs to be closed

# Extra Special: Movies

