

DS2000

2/24 - Fri

Admin

- HWS due 9pm
- no new HW this week
- mini v'z due 3/3

Agenda

1. Optional parameters
 2. Nearest neighbors
 3. Python
- } Designing Functions

1. Optional Parameters

- name
- parameters → information that goes into a function
- return type

Required parameter:

(what we've done so far)

- function ^{caller} is required to provide values

ex: read_csv(filename)

Optional/default parameter
(we've seen these too!)

- function caller may provide values
- there are reasonable defaults

ex: `plt.scatter(x, y)` default color = blue

plt. scatter (x, y, color = "pink")
 ↳ optional parameter

use my color, not default

color = "pink"

name of param → value it should have

Today: define a function with an optional parameter

ex: `def col-to-1st (1st, col, data-type = str)`

 return a 1D list

Optional param
 function caller can
 specify data-type,
 otherwise use
 String

cell: col-to-1st (1st, col)

col-to-1st(1st, col, data-type = float)

2. Nearest Neighbors

Which DD is closest to Larry?

- HW2 - euclidean distance on x, y values
- HW4 - euclidean distance for similarity
- Features - x, y values
temp, humidity values
- Distance measure - euclidean is one of many but especially common

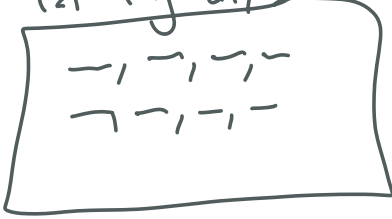


- known values
- X unknown, new!

Find nearest neighbor

Last time:

lat long city and r



— .csv

read-csv → 2D list

col-to-1st → 1D list

get-local → pick 2 city

LAMEY-LAT
LAMEY-LONG

goal

What functions do we need?

- Function has one job
- Self-contained

Specify:

- parameters
- return type

Euclidean



Minimum



→ A: compute one distance

B: compute 222 distances