

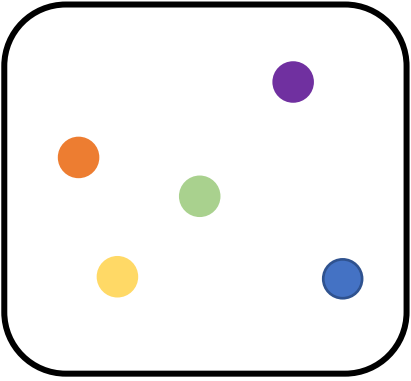
Spatial Data

We are going to work with spatial data in this class by embedding a special **geometry** column into a tabular data set that contains information about spatial elements associated with each row. Benefits of this approach:

- retains existing tools for data visualization, manipulation, and models
- allows for special plotting functions, such as using alternative coordinate systems
- access to spatial algorithms: length/area, spatial joins and set operations

I think it is best to understand the functions and syntax for spatial data by using the functions yourself. The notes for this are, therefore, embedded in the notebook for today. Here we will just outline a few concepts.

Spatial Data: Types



POINTS

Each row associated w/ lon & lat

Examples: coordinates of cities

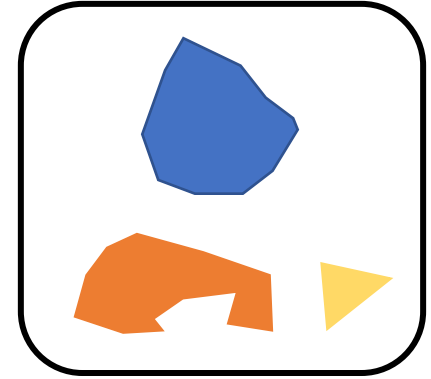
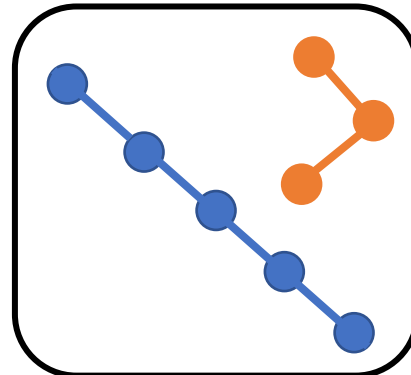
Can create from CSV file

LINES

Each row associated w/ sequence of points

Examples: roads, railroads, rivers

Usually loaded from GeoJSON



(MULTI)POLYGON

Rows associated w/ one or more areas

Examples: zip codes, states, countries

Usually loaded from GeoJSON