SOC 4650/5650: Lecture-05 Functions

Christopher Prener, Ph.D.

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Packages

- `base`
- `here`
- `leaflet`
- `mapview`
- `RColorBrewer`
- `sf`
- `tidyverse`
- `utils`
- `viridis`
- `webshot`

Install PhantomJS

```
webshot::install_phantomjs()
```

Create New R Project

New ▷ New Project...

Create New R Markdown File Using Template

New ▷ New File ▷ R Markdown... ▷
    From Template ▷ SLU Sociology Assignments ▷ OK

Load and Manage Spatial Data

Create File Paths

```
here::here("folder", "folder", "file")
```

Read Shapefiles

```
sf::st_read(filepath, stringsAsFactors = FALSE)
```

Re-project Shapefiles

```
sf::st_transform(sfObject, crs = crs)
```

Explore Spatial Data

Print Variable Names and Example Values

```
utils::str()
```

Preview Geometric Data and Attributes

```
mapview::mapview(sfObject)
```

Preview ColorBrewer Palettes

```
RColorBrewer::display.brewer.all(type = "seq")
```

Round Values

```
base::round(var, digits = val)
```[1]

[1] A digit of `0` will round to the nearest integer, a digit of `2` will round to two decimal places, and so on.

Remove Objects from the Environment

```
base::rm(obj)
```

Mapping with `leaflet`

Print Basemaps

```
base::names(providers)
```

Create `leftlet` Object

```
leaflet::leaflet(sfObject)
```

Add Tiles

```
leaflet::addTiles()
leaflet::addProviderTiles()
```

Create Color Palette

```
leaflet::colorNumeric("palette", sfObject$var)
```

Add Polygons

```
leaflet::addPolygons(color = "hex", weight, opacity,
  smoothFactor, fillOpacity, fillColor =  expression,
  highlightOptions = leaflet::highlightOptions(
  color = "hex", weight, bringToFront = TRUE),
  popup = base::paste(string with HTML and text))
```

Add Legend

```
leaflet::addLegend(pal = palObject, values =  expression,
  opacity, title = "title text")
```