

# Homework 04

For this homework, create an R Markdown (e.g., `.Rmd`) file and save it to your `/report` project directory on your computer with the name and a prefix `hw0-Lastname-FirstInitial`. Full name example: `hw04cookg.Rmd`. If you collaborate, add all names in the YAML code of your markdown file.

## Relevant Modules:

- project management
- data frame manipulation and wrangling
- data subsets and summaries
- the grammar of graphics
- spatial positioning and adjustment
- color scales and palettes

This homework is an exercise designed to challenge you to work with both color and fill, multiple plot layers, and different data extracted from the same data frame. The plot replication involves inspecting a plot, wrangling data and creating a data subset to prepare the data for plotting, selecting geoms, adding plot layers, and applying colors to specific data sub groups.

## Problems:

### 1. Project Progress Updates and Git

We have reached the point in the semester by which everyone is familiar with R, `{dplyr}` functions to wrangle data, `{ggplot2}` functions for creating plots, and some Git commands for staging, committing, and pushing to a remote repository. Each homework from this point will include weekly Git commands (e.g., `add`, `commit`, and `push`) to move your files from a local repository to the remote on GitHub. Although you have practiced this process for various exercises, making this process routine will strengthen the behavior and increase your confidence.

The project mid-term presentation is less than three weeks away. General data cleaning including naming or renaming variables, mutating relevant variables, converting character variables to numeric, removing duplicate rows, and combining/saving a cleaned `.Rds` file that preserves your vector data types should be mostly complete. Modifications here and there related to items overlooked, creation of new data subset files for specific plots, or additional project goals is expected.

1. stage your project related files that you have been working on;
2. commit them individually with specific commit messages;
3. push all the commits (with individual pushes after each add or with a single push after all commits);
4. evidence of progress will be considered

## 2. Replicating a Visualization

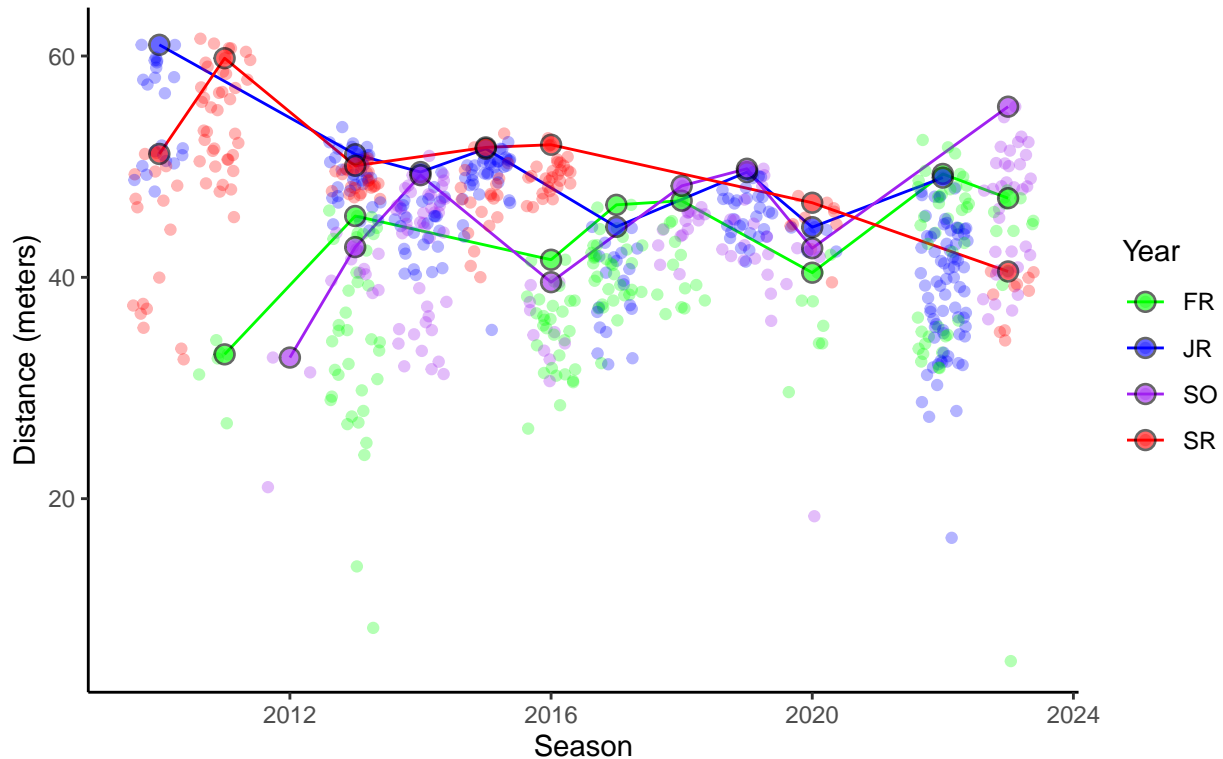
### Getting the Data:

```
readr::read_csv(  
  "https://raw.githubusercontent.com/slicesofdata/dataviz24/main/data/tfrrs/ht-cleaned.csv")
```

### The Plot and Data:

Feel free to collaborate. Consider the following description of the data to help. *Compared with all seasonal performance, the farthest distance thrown at SCIAC Championship is among the best of the year. In general, older athletes tend to throw farther distances but they appear to be on a decline.* Look at the data frame and study the plot to determine how you might go about replicating it. Replicate this plot as best as you are able.

- You will notice that the legend keys are in alphabetical order, which seems odd for a plot but that's something we will address in later topics. However, you will want to ensure that the class rank and the colors would remain consistent, for example, if a plot did not include a sub group, the colors would not change, like seniors.
- The colors are selected not for aesthetics but to make this easier for you to replicate.
- `geom_line()` is added to facilitate; though we have not used it, `geom_line()` works a lot like `geom_point()`; omit if you cannot figure this part out
- the point shape for SCIAC bests is 21



Finally, knit an html file and upload to: <https://ln5.sync.com/dl/a038628f0/wwfifjxk-f7rfshin-rkedi3y8-77f9zaii>