Lab 06_Advanced Graphics FJS

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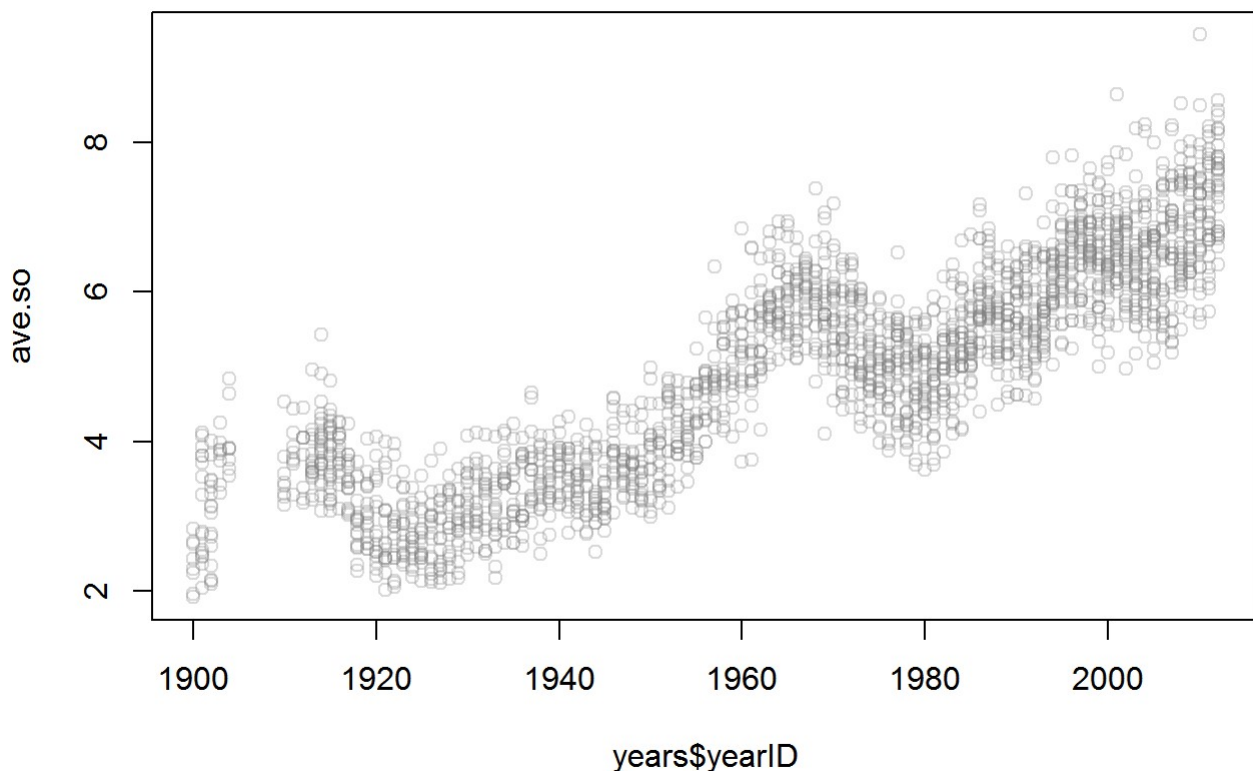
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Part I

Question 1

Plot average strike-outs by year. Use the gray() function to select a color, and add transparency.

```
plot( x=years$yearID, y=ave.so,
    col=gray(0.5,0.3) #shade of gray (0=black, 1=white) and opacity
  )
```
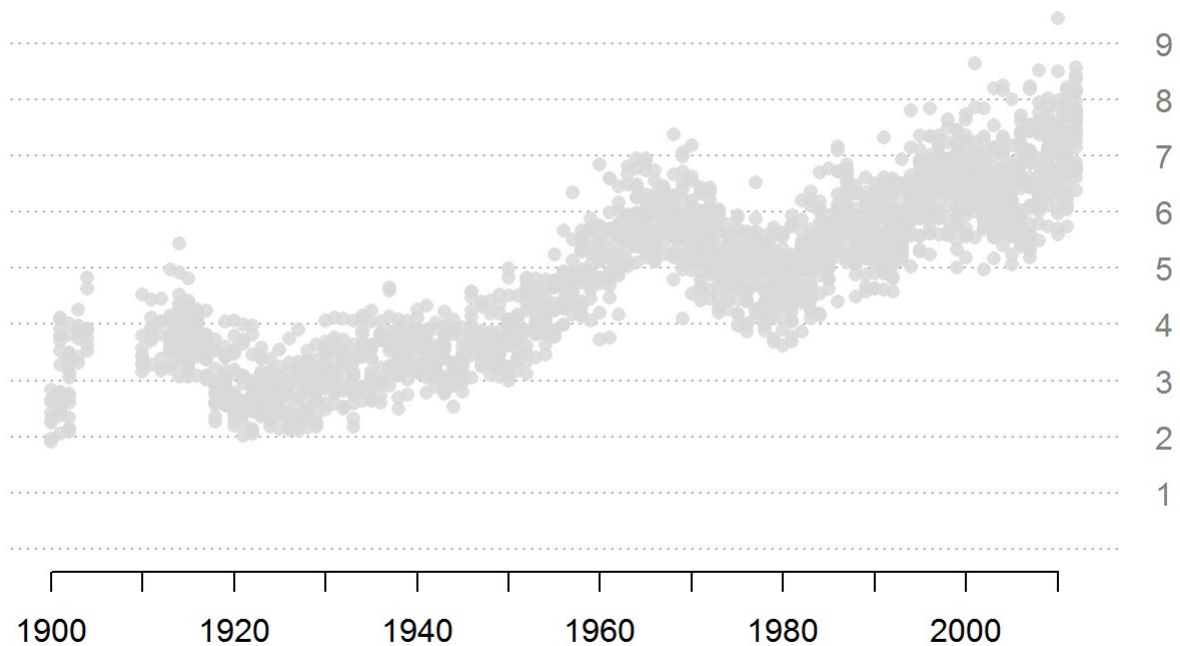

Question 2

Use appropriate x and y axis conventions and labels.

```
plot( x=years$yearID, y=ave.so,
      col=gray(0.85, alpha=0.85 ), #shade of gray (0=black, 1=white) and opacity
      xlim=c(1900,2012),
      ylim=c(0,10),
      axes=F,
      xlab="",
      ylab="",
      #main="Hits and Wins per Seaso, 1990 to Present",
      #xlab="Hits by Team Per Season", #x-ax
      abline( h=seq(0,9,1), #vertical line written ([lowest value], [highest value],
[intervals to draw line])
              lty=3, #line type
              col=gray(0.7,1) #color of line
            ),
      #col="green4", #color
      pch=16, #indicates the plot symbol to use
      cex=1, #determines size of the symbols/plots
      bty="n" #gets rid of the box around the plot
    )
  axis( side=4, at=1:9, labels = c(1:9), las=1, col.axis=gray(0.5), tick = FALSE )
  axis( side=1, at=seq( 1900, 2012, 10 ),  las=1, col.axis=gray(0), tick = TRUE )
```
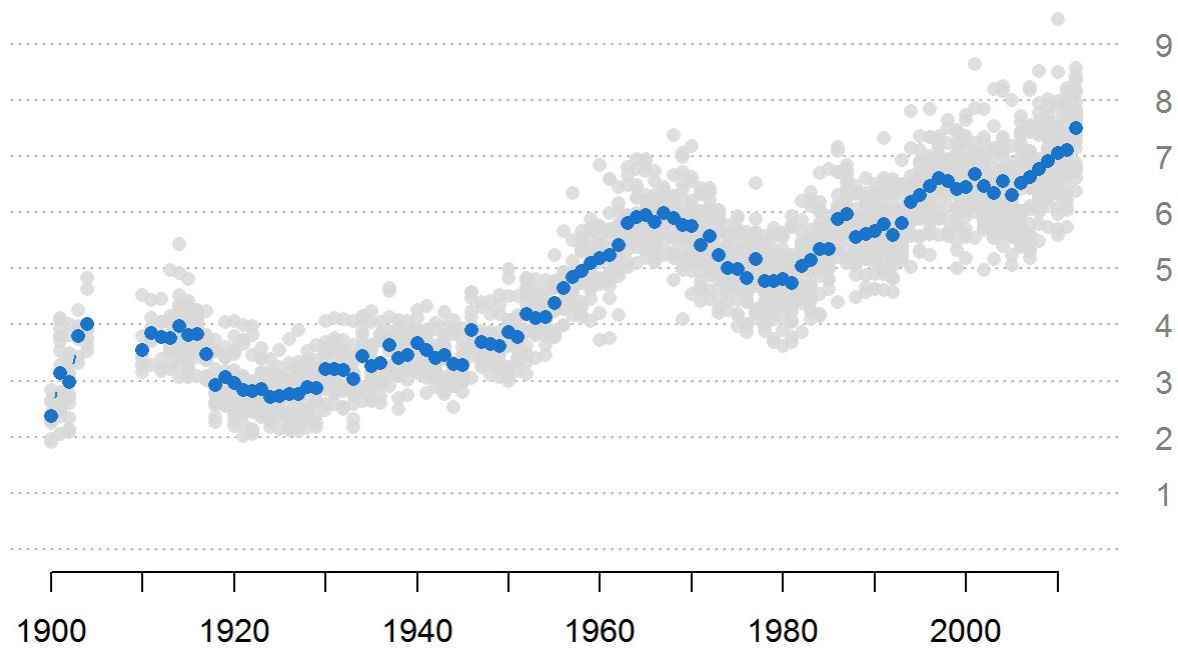

Question 3

Calculate the league average using tapply() or group_by() year, and add it to the graph. Use the argument type="b" to connect the dots.

```
plot( x=years$yearID, y=ave.so,
      col=gray(0.85, alpha=0.85 ), #shade of gray (0=black, 1=white) and opacity
      xlim=c(1900,2012),
      ylim=c(0,10),
      axes=F,
      xlab="",
      ylab="",
      #main="Hits and Wins per Seaso, 1990 to Present",
      #xlab="Hits by Team Per Season", #x-ax
      abline( h=seq(0,9,1), #vertical line written ([lowest value], [highest value],
[intervals to draw line])
              lty=3, #line type
              col=gray(0.7,1) #color of line
            ),
      #col="green4", #color
      pch=16, #indicates the plot symbol to use
      cex=1, #determines size of the symbols/plots
      bty="n" #gets rid of the box around the plot
    )
  axis( side=4, at=1:9, labels = c(1:9), las=1, col.axis=gray(0.5), tick = FALSE )
  axis( side=1, at=seq( 1900, 2012, 10 ),  las=1, col.axis=gray(0), tick = TRUE )


  league.ave <- tapply( ave.so, years$yearID, mean, na.rm=T )
  #points( league.ave, type="b", col="blue3", pch=18)
  points( names(league.ave), league.ave, type="b", col="dodgerblue3", pch=16)
```

Question 4

Reproduce at least two of the narrative texts ("US enters World War I", etc.). Note that a line break within text is created by including "" in your string.

```r
plot( x=years$yearID, y=ave.so,
      col=gray(0.85, alpha=0.85 ), #shade of gray (0=black, 1=white) and opacity
      xlim=c(1900,2012),
      ylim=c(0,10),
      axes=F,
      xlab="",
      ylab="",
      #main="Hits and Wins per Seaso, 1990 to Present",
      #xlab="Hits by Team Per Season", #x-ax
      abline( h=seq(0,9,1), #vertical line written ([lowest value], [highest value],
[intervals to draw line])
             lty=3, #line type
             col=gray(0.7,1) #color of line
           ),
      #col="green4", #color
      pch=16, #indicates the plot symbol to use
      cex=1, #determines size of the symbols/plots
      bty="n" #gets rid of the box around the plot
    )
  axis( side=4, at=1:9, labels = c(1:9), las=1, col.axis=gray(0.5), tick = FALSE )
  axis( side=1, at=seq( 1900, 2012, 10 ),  las=1, col.axis=gray(0), tick = TRUE )


  league.ave <- tapply( ave.so, years$yearID, mean, na.rm=T )
  #points( league.ave, type="b", col="blue3", pch=18)
  points( names(league.ave), league.ave, type="b", col="dodgerblue3", pch=16)

  text( x= 1963, y=2.5, labels="Strike zone enlarged\nfrom 1963-68.", col=gray(0.5) )
  lines( c(1963,1963),  c(3,5.75), col=gray(0.6, alpha=0.8) )
  text( x= 1917, y=1, labels="U.S. enters\nWorld War I.", col=gray(0.5) )
  lines( c(1917,1917),  c(1.5,3.45), col=gray(0.6, alpha=0.8) )
```
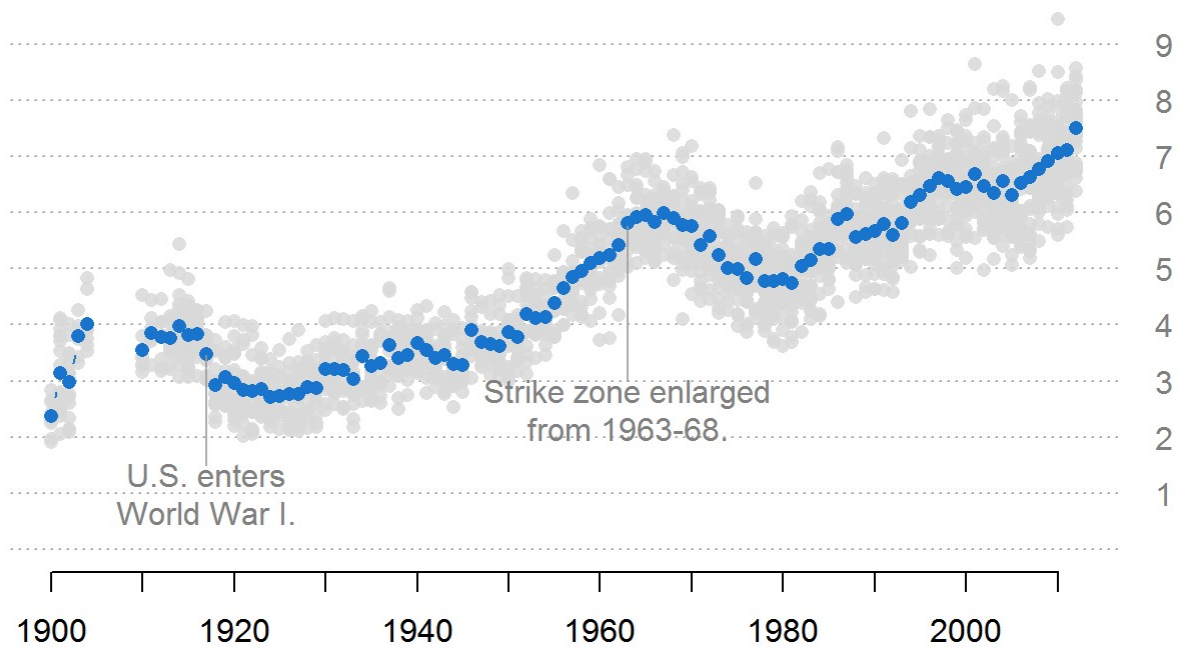
Part II

Question 1 & 2

Using R Shiny tools, add an input panel that allows users to select a team. Once selected, add the team trendline to the graph. Report the selected team name on the graph.

Choose a Team

Brooklyn Superbas ▾