

INSTRUCTIONS:

1. *For each answer*, include the items listed below and your code (in an Appendix, organized so that we can relate it to questions). Submit your answers as a pdf (with your name in the file name).
2. Install the SportsAnalytics package in R. In that package are data for all NBA (pro basketball) players for the 2009-2010 season.

to get those data into a file called “data”, run this command:

```
data <- fetch_NBAPlayerStatistics(season = "09-10", what =  
c("", ".Home", ".Away"))
```

Now using that data file,

1. Develop a plausible, predictive, and legitimate (in terms of statistical assumptions and avoiding multicollinearity) model to predict the TotalPoints scored per player. Show your results for:
 - a) your choice of an assumed distribution
 - b) the plausibility of your alternative models
 - c) the summary output of your preferred model
 - d) a plot of residuals of your preferred model
 - e) a narrative statement describing your overall result
2. Develop a plausible, predictive, and legitimate (in terms of statistical assumptions and avoiding multicollinearity) model to predict the *defensive* rebounds (i.e., TotalRebounds – OffensiveRebounds) per player. Show your results for:
 - a) your choice of an assumed distribution
 - b) the plausibility of your alternative models
 - c) the summary output of your preferred model
 - d) a plot of residuals of your preferred model
 - e) a narrative statement describing your overall result