**Assignment 1**

Due September 12, 2016

1. Study Chapters 2 and 3 from [**An Introduction to Statistical Learning with Applications in R**](http://www-bcf.usc.edu/~gareth/ISL/)**, by** [James](http://www-bcf.usc.edu/~gareth), [Witten](http://www.biostat.washington.edu/~dwitten/),[Hastie](http://www.stanford.edu/~hastie/) and [Tibshirani](http://www-stat.stanford.edu/~tibs/)
2. Do problems 8 from Chapter 2 and 3, 7, and 13 on pages 120-124 from ISLA.
3. Show that if form an orthogonal set for , then the OLS of its coefficient in the linear model is

Also, show that the process described on p. 37 of the *Introduction and OLS* handout produces orthogonal *Z*’s.