Pol Sci 630: Problem Set 11 - Simulations and autocorrelation across time and space

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Due Date: Tuesday, November 10th, 2015, 10 AM (Beginning of Class)

It is absolutely essential that you show all your work, including intermediary steps, and comment on your R code to earn full credit. Showing all steps and commenting on code them will also be required in future problem sets.

Please use a *single* PDF file created through knitr to submit your answers. knitr allows you to combine R code and LaTeX code in one document, meaning that you can include both the answers to R programming and math problems. Also submit the source code that generates the PDF file (i.e. either .Rnw or .Rmd files)

Make sure that the PDF files you submit do not include any references to your identity. The grading will happen anonymously. You can submit your answer at the following website: `http://ps630-f15.herokuapp.com/`

R Programming

Problem 1 (4 points)

Do the following in R:

a) Load the *2010 CCES_data* that is attached to the email you received. Simulations.

b) How are these simulations constructed?

Problem 2 (4 points)

Do the following in R:

a) Interactions.

b)

Problem 3 (4 points)

Please answer the following questions. Note: Please don't include R code in this answer as the file would not compile for other people.

a) Load the dataset that you want to use for your data analysis.

b)

Statistical Theory: Autocorrelation across time and space

Problem 4 (4 points)

Do the following problems. Show every step.

a)

b)