

Reproducible Code Homework Assignment

This assignment will take some time and will require attention to detail. Take your time, consult any materials necessary (fellow classmates, online help files, how-tos, youtube videos, etc.), and don't be discouraged, learning to create reproducible code is a process!

You will be merging two population level data sets from the U.S. Department of Education, Institute of Education Sciences. The Common Core of Data records demographic information at the state, district, and school level. You will be given a file of school-level data for all schools in the U.S. You will also be given a file with district-level data for all districts in the U.S. via NYU Classes. Note that some districts may have just one school in them but most will have several schools in them. This data is from the 2013-2014 school year and has been partially cleaned.

The goal of this assignment is to create a how-to manual for teaching others commands in R. Your submission for this assignment should include code, descriptions, documentation of your process, and any other materials or information that could help teach others how to complete the following actions. The results of the code included in the manual should be easily reproduced when run by another researcher (classmate, instructor, etc.).

Your assignment:

1. Within the School Level data file please select only one of the following groups of schools:
 - Primary;
 - Secondary;
 - High (school)
2. Merge the District and School Level data files. Refer to the how-to presented in class.
3. Recode at least 5 variables.
4. Create a summary table or figure with descriptive statistics for at least 5 variables.
5. Give a brief description of what the table/figure shows you.
6. Push yourself to learn and execute a command you have never used before. Describe how you did it, and why you chose that command.
 - Examples of types of commands: summaries, visualizations (graphs, charts, plots), data sorting, missing data summaries. You can choose any command or group of commands as long as it is NEW TO YOU. Make sure you are taking this opportunity to learn something useful that expands your knowledge of R (or Python).
7. Bundle this using packrat as demoed by Vicky Steeves.