About the Final Project

Stat 133, Fall 2016, Prof. Sanchez

November 29, 2016

Here are some guide lines about the final project.

Report

Please turn in a print copy of your report on Friday Dec-2nd during lab.

The report should be written in the form of a paper.

- **Abstract**: What the project is about and the main take-home message.

- **Introduction**: Provide an overall description of this project. What is the main analytical problem(s) and exploratory research question(s).

- **Data**: Describe the sources of data. This implies briefly talking about Basketball Reference, as well as the used tables. What is the NBA? What is the data's season? How many basketball teams in the NBA? What is the format of the data tables? ETC

- **Methodology**: Describe the tools and methods used for the analysis. Also, describe what were the main stages to perform the required analyses. From data collection, to cleaning and formatting, to merging, to EDA, etc.

- **Results**: What are the main results? Is there anything interesting? Did find any surprises? What patterns did you identify? Do the results make sense? Insights?

- **Conclusions**: Summarize the main results of the analysis. Who could benefit from your analysis? Based on your results, what other questions and/or hypotheses can you come up with? What other future analyses would you like to perform (time permitting)? Make relevant conclusions explicitly connected to the analysis and context.

We will be grading your report based on clarity, interpretation of the results. All the images and tables of your report should include captions with clear descriptions. Also, plots sohuld contain well labeled axes, title, You will be penalized for explanations that are illogical, incorrect, incoherent, irrelevant, or unconvincing.

Slides

In addition to the report, you have to prepare slides. The idea is to have material that you could use to give a talk about your project. In order to help you prepare your slides, pretend that you have to give a 10 minute presentation to the entire class (or at least to the instructor and GSIs). The slides should provide visual support for your talk. In other words, we don't want to see slides full of text and bullet points (for that purpose you already have the written report). You may try to focus the scope of your slides to a few key points (what is the insight of your analysis?). Furthermore, it should be clear to you audience what is the take-home message(s) from your slides.

Use an Rmd file to write the content of your slides, preferably using ioslides

http://rmarkdown.rstudio.com/ioslides_presentation_format.html

Do NOT use powerpoint, keynote, google slides, or other slideware for your slides.

Code (R script files)

- Write lines of code having a width of less than or equal to 80 characters
- Add a header to all script files (general description, imported functions)
- If a script needs your programmed functions, source them with `source()` at the beginning of the script (after the header)
- Load all required packages at the beginning of each script (after the header)
- Organize scripts in differentiated sections
- Use indentation (e.g. inside body of functions, expressions in a loop)
- Use comments (but don't belabor the obvious)
- Use blank spaces (between sections, around function arguments, around operators, etc)

Files

Make sure all your files have the appropriate extension: .R, .csv, .txt., .png, .pdf, .Rmd, etc

README file

The README file is like the business card of your project. It is also the first file that a user should take a look at when examining your project.

The best advice I can give you to write this file is: write the README file for your future self. Imagine it has been three months (os six, or 12) since you finish this project. And then you decide to look at its contents and see what you did. I guarantee you that you WON'T be able to remember everything about the project. That's when you will look at the README file. Write main descriptions, important instructions, and overall structure of your project. If there are small but crucial details about the structure, you should also include them here.

Another way to think about the README file is as a legacy for future users or reviewers. It is the starting point to start navigating through the components of your project.