**Format Document for STAT-601 Homework**

You will need to submit two parts for each homework assignment   
(Two separate documents, the .RMD file and a PDF – Word files will not be accepted).

1. **Annotated RMD Code**   
   (This is a .RMD file created in RStudio/RMarkdown, the annotations should be around every line/chunk of code (whichever is more appropriate) describing what that line/chunk is doing. This helps you and others when looking back at your code to see exactly the way you intended your code to work.) This should not show up in the generated PDF, so this is informal. Do so by including the comments within the chunk of code with a # in front of the comment.
2. **Assignment Write-up**(This is a PDF document generated from the RMarkdown file mentioned above.) This is a formal Write-up that shows off your results as well as your presentation and interpretation of results. Coding is only half of the work, you need to be able to properly present and interpret the results to people who may not have any understanding of statistics. See below for more details.

**Format for Assignment Write-up Document**

*Your Name*

*Collaborators*: List of people (whether they’re in the class or not) who contributed to the assignment and what contributions each person made, also list any books/websites you used (can be listed at the end or in each problem where it applies). If you did the work by yourself, that needs to be stated also.

For each question, you need:

1. ***Statement of the question/problem and Numbering***

* Don’t make us guess what problem you are working on and when you switch to the next problem. There needs to be a clear distinction between the problems. (numbering is very important, the command \newpage in .RMD will also help create a space between the different problems)

1. ***Output:***

This includes

* Tables – They need to be nice and formal and informative with proper labelling
* Plots – They need to be appropriately sized to see all of the information, need to have the axes properly labelled, need an appropriate title, include a legend if necessary. Make sure labels don’t include a shortened variable name and aren’t overlapping, which makes it unreadable
* Graphs – see plots
* Model Output/summary – be very careful and only include if necessary. If there are multiple summaries for one problem, only choose the most relevant one OR make a nice table of proper comparisons (maybe only include the p-values of the variables for each model to compare). Also make sure it is clear what summary belongs to what type of model and what variables are in the model. You can also use kable() in the knitr package on some of the variables produced by summary(model) to create nice looking output of the information.
* Appropriate equations done in .RMD (or Word if necessary and saved as a PDF). Some of the questions this semester will require you to solve equations for a variable (think algebra!). There are guides online to help you write equations in .RMD. We do not want to see uploaded pictures of your work on paper.

This DOES NOT include:

* Code that produced the answers. It is messy and you already submit your .RMD file with all of the code, which we can look at if necessary.
* Any unnecessary output that your code generated (loading a library outputs unnecessary comments about the library, there are ways to get rid of it
* Any numbers/table of numbers with no explanation. Any output included needs to have information directly associated with it. This makes our job easier to grade if we don’t have to scroll to find your explanation or figure out why you included those
* Plots that are going off the page/sentences running off the page. Certain commands paired together may cause your plots/sentences to not wrap to a new line. It is up to you to look over your outputted PDF and check for these errors and to fix them.
* Pages and pages of output. Only include relevant output. 20+ pages is way too many to include and only takes up grading time
* Pictures of answers.
* Syntax/language errors. If you copy and paste a sentence from another type of file into your .RMD file, your output PDF will most likely have some symbols creeping in that you didn’t include. You need to look over your outputted PDF and correct any mistakes that show up. Don’t just submit when all of your code runs.

1. ***Discussion*:**

How do your results address/answer/solve the question/problem?

**Proper interpretation of the results**

List any assumptions you made that weren’t explicitly given in the problem.

Did you get the results you expected?

Did you run into any complications?

Did you agree with your collaborators about the results?

Tell me anything you think is important here.