MSci Assignment

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Remember that you need to produce your assignment using R Markdown. I want to see your code, your output and appropriate narrative describing (and justifying) your decisions during your data wrangling, visualisations, and stats modelling.

The dataset you first need to load is called `my_data` and can be found in this assignments folder. The dataset is from a repeated measures experiment where 48 participants had to respond to words. These words were either common or rare. We measured participants' reaction times - these are recorded (in milliseconds) in the columns `common_word` and `rare_word`. We expect participants to respond more quickly to common words than to rare words.

For this assigment, you need to:

1. First wrangle the `my_data` datafile so that it is in long rather than wide format. I want to see your code plus the final structure of your data using `str()`.

For the 48 students in the `my_data` dataset we also have a measure of their engagement with literature. These 48 literature engagement measures are contained withing a larger dataset of 200 people - this dataset is called `literature_data` and the engagement with literature measure is in the column labelled `literature`. The individuals in the `my_data` dataset have associated with them the same participant numbers as can be found in the larger `literature_data` dataset. We want to combine the `my_data` and `literature_data` datasets so that for the 48 students in the `my_data` dataset we also have a measure of their engagement with literature. We think that their engagement with literature might be related to our participants' reaction times.

2. Combine these two datasets using one of the `join` functions. Again, I want to see your code plus the final structure of this combined dataset using `str()`.
3. Visualise the combined data using `ggplot2`.
4. Conduct the appropriate ANOVA covarying out the effect of literature engagement to determine whether reaction time (rt) is influenced by whether words are rare or common. Write a brief interpretation of what the results mean.