Online Academic Data Analysis Bootcamp Using Open-Access Program R: Essentials. Session 5, Parametric Statistics: Exploring Assumptions

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# Exercise 1 Read in R exam data.

1. Set the variable uni to be a factor:
2. Transform the variable numeracy using log, square root and reciprocal transformation.
3. Plot histograms of numeracy, log numeracy, square root numeracy and reciprocal transformed numeracy scores and add a normal density line. Interpret the assumption of normality based on the histograms
4. Plot Q-Q plots of the transformations above and interpret.
5. Conduct and interpret Shapiro – Wilk Tests for numeracy, log numeracy, square root numeracy and reciprocal transformed numeracy scores

# Exercise 2

Test the assumption of homogeneity of variance for numeracy, log numeracy, square root numeracy and reciprocal transformed numeracy variables in Exercise 1.