Homework 7

Due May 6, 2020 (by 11:59pm)

Question 1:

Consider the `react` dataset built in `ISwR` package. Do the values of the `react` data set (notice that this is a single vector, not a data frame) look reasonably normally distributed? Does the mean differ significantly from zero according to a t test?

Question 2:

Consider the `midwest` dataset built in `ggplot2` package. Construct a Wilcoxon signed-rank test on variable `percollege` for the following hypothesis:

$$H_0 : \mu = 42; \quad H_a : \mu < 42.$$

Note: please construct the test manually (don't use `wilcox.test` function).

Question 3:

Consider the `midwest` dataset built in `ggplot2` package. Construct an appropriate t test to see if there is a significant differences between the average percent of adult proverty `percadultpoverty` in illinois (IL) versus wisconsin (WI).

Question 4:

Consider the `intake` dataset built in `ISwR` package. The `intake` data frame has 11 rows and 2 columns. It contains paired values of energy intake for 11 women. Conduct an approrpiate test to see if there is a significant difference between pre-intake and post-intake.