Homework 10 Tips and StatCrunch Procedures

Tip 1:
To calculate the t test statistic used to test correlation significance from the sample correlation $\boxed{r}$ and sample size $\boxed{n}$: Use the formula from page 453 in Chapter 10:

$$t = \frac{r}{\sqrt{\frac{1-r^2}{n-2}}}$$

Tip 2:
The following StatCrunch directions are written to obtain the correlation and regression StatCrunch output needed to answer questions in Homework 10 and Chapter 10 HW Quiz MyLab assignments. **If you discover errors or omissions, please email concerns to Dr. Whitten for correction. Thanks!**

1. **Graph a scatterplot from sample data (x, y) measurements.**

   Graph > Scatterplot > (Select x and y variables) > Compute!

2. **Calculate the sample correlation r and the P-value to test significance for the population correlation ρ.**

   Stat > Summary Stats > Correlation > (Select x and y variables simultaneously)
   > Display: Check Two-Sided P-value > Compute!

3. **Calculate the regression equation.**

   Stat > Regression > Simple Linear > (Select x and y variables) > Compute!

   Note: The P-value for regression slope (not the intercept!) tests regression significance (and equivalently, correlation significance.)

4. **To calculate a prediction interval for y from a particular value for x:**

   - Run StatCrunch Regression (see above)
   - Add a numerical value for x under Prediction of Y. Adjust the default 0.95 level to the desired level, if needed.