For this week’s written assignment, each group should analyze their project data and write up their results as follows. Each group should only turn in one analysis (but you should all do the analysis to double check your results). Be sure to make a copy of your analysis to turn in with your final project write up (i.e., don’t turn in the only copy of your analysis). Write the name of everyone in your group on your analysis, as well as your group number.

Also be sure to either attach a copy of your raw data to your group project or email me an electronic copy of your raw data so that we can check your work. If you email me the data, please be sure to specify your group number.

RESULTS (30 out of 100 total group project points):
In this section you should present your data with an appropriate graph and summary statistics. It is ok to draw your graphs by hand, but make the graphs legible and reasonably accurate. Then you should perform the appropriate hypothesis test. You should be able to analyze your data with one of the following hypothesis tests:

a. z-test approximation of a binomial test
b. one sample t-test
c. independent samples t-test
d. repeated measures (paired samples) t-test
e. t-test of Pearson’s $r$

For the purpose of the write-up, if you think that none of these parametric tests are appropriate (e.g., your data aren’t normally distributed) go ahead and use the most appropriate parametric test. If you’d like to know how to use a non-parametric test to analyze your data, come see Dr. Groppe or one of the TAs/IAs.

Please attach your raw data or email Dr. Groppe your raw data so that we can check to make sure you performed the test accurately. Please show your work (your computations can be written out by hand) and provide the following information about your hypothesis test so that we can assign partial credit.

1. Null Hypothesis
2. Alternative Hypothesis
3. The "tail" of the test (two-tailed, upper-tailed, or lower-tailed)
4. The type of hypothesis test you chose
5. Significance Level
6. Critical Values of your Test Statistic (e.g., a z-score of 1.65 for an upper tailed z-test with a significance level of 0.05)
7. The Observed Value of your Test Statistic (e.g., a sample mean of 65.1 gives you a z-score of 2.1)
8. Your Conclusion (Do you reject or retain the null hypothesis?)
9. The $p$-value of your observations

If you’re confused about how to complete the form for your test, go to:
http://www.cogsci.ucsd.edu/~dgroppe/STATZ/example_forms.pdf
Explain your results with some text. For example:

The effect of caffeine on the number of words memorized was highly significant and considerably large ($t(15)=4.21, p < .001, d=1.08$).

Finally, if your analysis consisted of a one sample $t$-test, independent samples $t$-test, or repeated measures $t$-test, provide the appropriate confidence intervals for your estimate of the population mean or the mean difference between two populations. Include the confidence intervals in your text. For example:

We are 95% certain that, on average, caffeine increases memorization capacity by 3.2 to 4.6 words.

If your analysis consisted of a $z$-test approximation of a binomial test or a $t$-test of Pearson’s $r$, you do NOT need to provide confidence intervals nor do you need to provide Cohen’s $d$. 