960:401 Basic Statistics for Research
Computer Assignment 2:

Follow the instructions to find a 95% confidence interval for a mean and to perform the one-sample t-test using the data in *Intro Stats*, Chapter 23, Problem 28.

Hand in

- A printout of your graph, and the printout of the confidence interval and the result of the hypothesis test. Rewrite the confidence interval in the form \((a, b)\), and circle the p-value.
- Staple everything together and be sure to put your name on it.

This assignment is due at the end of class on Thursday, November 20.
1. **Opening SPSS.** The details may vary by computer, but if there is no SPSS icon on the desktop, click on the “Start” button in the lower-left corner and then choose “Programs.” You should be able to find “SPSS,” or “SPSS 11 for Windows” on the pop-up menu. You may need to select the submenu “Math” first.

2. **Get to the Data Editor.** Depending on the details of your installation, you may get a screen titled “What would you like to do?” If so, choose, “Type in Data,” and then click “OK.” The top of the window should now say “SPSS Data Editor,” which looks a lot like a spreadsheet. There are two tabs in the lower left corner, “Data View” and “Variable View.”

3. **Name your variables.** Click on “Variable View.” You should see “Name,” “Type,” and so on across the top of the spreadsheet. The full dataset that we will use is given in Chapter 23, Problem 28. There is one variable, “Calories.” Type that name in the first column of the “Name” column. If you hit the “tab” key, SPSS will fill in the rest of the columns with defaults. All of the defaults are fine for this example. If you had a qualitative variable, you could click next to the word “Numeric” to change the “Type” from “Numeric” to “String.”

4. **Enter the data.** Click on the “Data View.” You should see “Calories” and then “var”, “var”, … across the top of the spreadsheet. Click on the first cell under “Calories,” type the first value, hit the enter key, type the second value, and so on.

5. **Make a QQ plot.** From the “Graphs” menu, choose “QQ . . .” move the calories variables to the “Variables” box, make sure “Test Distribution” reads “Normal,” and click “OK.” The QQ plot is the one labeled “Normal Q-Q Plot,” not the one labeled “Detrended Normal Q-Q Plot.”

6. **Find the confidence interval and perform the test.** From the “Analyze” menu, choose “Compare Means” (even though there’s only one) and then “One-Sample T Test.” Move the variable over to “Test Variable(s)” part of the dialogue box by choosing the variable name and then clicking the small triangle near the middle. Put the value from the null hypothesis (part c in Problem 28) and then click “OK.”

7. **Find your answers.** The first box gives the summary statistics. The second box gives the confidence interval on the right. For the hypothesis test, the test statistic is labelled “t”, the degrees of freedom “df” and the p-value is labeled “Sig (2-tailed).”

8. **Printing.** Click the printer icon.