**Example of doing Poisson probability graphs in R Commander**

Let’s suppose my data set (consisting of counts) is the following 24 values:

8 6 6 8 7 8 8 11 2 7 9 7 12 6 9 9 8 7 6 6 4 10 10 8

I can enter the data in R Commander by choosing the Data menu and selecting New Data. Give the data set a name and click OK. Type the data into the first column, arrowing down to get to the cell below. Once you’ve typed all the data values, click the column heading labeled var1. Give your variable a name and click “Numeric” (which should already be selected.) Then you can calculate the mean either by hand, or via the menus Statistics -> Summaries -> Numerical Summaries.

Then go to the Distributions menu, choose Discrete Distributions -> Poisson Distribution -> Plot Poisson distribution. Enter your mean and choose “Plot probability mass function”. The result should be a graph that looks sort of like the one in Section 4.5 of the book (p. 212 in 11th edition), but with “needles” instead of full bars (I actually like needles better for discrete distributions).

For the bar graph of data (question (b) in the assignment), your graph can look somewhat similar in form to this needle or bar graph, but for the bar graph of the sample data, the heights of the bars would be the frequency (or relative frequency) of the values in your data set. Then you can compare the graph for the sample data with the Poisson probability graph and make a judgment about whether the Poisson model fits your data well.

For my data set above, the frequencies of the data values are as follows:

Data value: 2 4 6 7 8 9 10 11 12

 Frequency: 1 1 5 4 6 3 2 1 1

The bar graph of the data should reflect this information graphically.