Working with the CONBANDS Program:

The CONBANDS program is a program that computes the following:

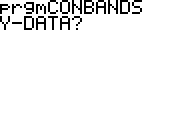
1. The regression line for bivariate data,
2. The confidence bands needed for inferences on E(y).

The user inputs the following:

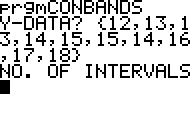
1. The y-data
2. The number of intervals to compute. What the program does is generate an XY-LINE graph to connect the lower endpoints of the intervals and the upper endpoints of the intervals to generate the bands.
3. The x-data
4. The confidence level as a decimal
5. The x-value to evaluate each interval

Here is a demonstration of the program.

First call up CONBANDS

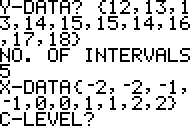


It asks for the y-data first, let’s enter in the following data set: {12, 13, 13, 14, 15, 15, 14, 16, 17, 18}. Next it asks for the number of intervals (stored as K in the program).

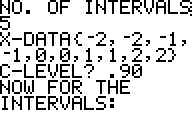


Let’s say we want to compute five intervals. This implies that the program will compute five lower bounds and five upper bounds, based on a value of x to be inputted later. It will then activate the XY-Line option under STAT PLOTS to connect these points.

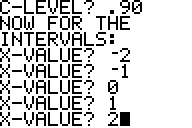
Next it asks for the X-Data. Let’s use the data set: {-2, -2, -1, -1, 0,0,1,1,2,2}.



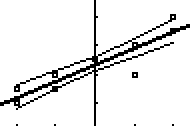
The C-Level is the confidence level. Let’s use 90% confidence here. Remember to enter in the confidence level as a decimal.



With this message, the user will be asked to input K-values for centers of interval calculations. So the user will see the message X-Value several times.



What the program does is it stores each of these values in a list and then substitutes these individual values into the computations in order to compute the intervals. Hitting Enter after entering in the last x-value to evaluate the interval will generate the following graph:



The user may remove the regression line or the data values if desired. The program will generate two lists called LBOTM and LTOP to store the values of the lower and upper endpoints of the confidence intervals.