

## WISE Regression/Correlation Interactive Lab: Module #3

### Module 3. The Impact of Outliers

This problem is a little different than the others. For this problem, first distribute the data points so that you have a correlation of about  $+0.90$ .

Imagine that you added an extreme point to the upper left-hand corner (don't actually add the point yet). How do you think this would change your correlation?

Would you expect the correlation to become larger or smaller? \_\_\_\_\_

If you had to guess, what do you think your correlation value would be after the addition of this single point? \_\_\_\_\_

Now add a point to the upper left-hand corner (to add a point, double click the spot where you want to add the point). This new point will represent a single point that deviates from your strong pattern of correlations.

What is your new correlation? \_\_\_\_\_

Does this differ from your expectation? How? Comment on the impact of the addition of an extreme score. (It may be interesting to look at the squares for errors – Check “Show SS error” and “Show Error as squares.”)

Imagine that you had a set of scores where one value was incorrectly entered (e.g.,  $X = 100$  entered when  $x$  was actually 10). How might this type of error impact your results?