1. For the following two (simulated) data sets that I posted on the web-site, please construct empirical variograms following the guidelines described in class regarding the number of pairs in each bin, distances considered, number of bins, and other general considerations we discussed in detail.

The next step is to fit a theoretical model to the empirical variogram. Try several models that seem appropriate, several options for the weights, number of bins, starting values for the sill and range and plot the empirical variograms with the best fitted model. Look on the web site for a collection of commands that you may find helpful to carry on your analyses.

The solution to this homework should be written in a report format. This means including only the relevant work, suggestive graphs, description of the methods you have applied and a clear conclusion. Illustrate difficulties with graphs or numerical summaries, suggest possible solutions even if you don't know how to completely apply them at this point and describe your conclusions from the sensitivity analysis. Think of this as the statistical section of a paper you will submit to a journal. Although I encourage you to work in groups, I expect you to run your own code, use your own combination of starting values, models, bins and so on. The probability of two of you choosing the same combination is very low, so I don't expect to see that!!

The first data set is the one you used for your first assignment, hw1.txt and the second one is labeled as hw2.txt.