

LSGraph  
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LSGraph is a simple program used to fit polynomials to data using the LeastSquares Approximation method. This program is in its developmental stages and should be used only at your own risk. It is important for me to know if the application has a useful place in the Macintosh society and I am counting on you, the users, to give me feedback on the program.

LSGraph started as an idea for better software on the DU campus after trying to use the LabStat software provided by the Physics Dept. for the freshman Physics cycle. I thought, "There has to be a better and easier way to do this sort of stuff!" If you've worked with LabStat you probably know what I mean.

The operation of the program is simple. You can create text files with the simple editor like window containing the data that needs to be fit, or read in pre-existing text files created with some other data analysis program. Then the data is fit using Fit Data or command-F from the LeastSquares menu. This brings up a dialog. You can select any one of the five fit types: Fourier, Exponential, Logarithmic, Polynomial or Power. What you select depends on the type of fit you want. The other option is to select the degree of fit for the Fourier & Polynomial fit types (the other types automatically use a degree of 2). This determines how many elements are in the final polynomial. The graph is simple and cannot be modified (I'm not Cricket!!) and contains the graph, the polynomial and the variance factor. This variance factor indicates the "goodness" of the fit. A low number is better and when a PERFECT fit is obtained the variance should be something like  $1e-32$ . Quite a low number, but always greater than zero. The variance factor is calculated by taking the square root of the standard deviation of the fit data from the actual data. Be careful when entering your data, the program is sensitive about extra line feeds at the end of data. The first X data element is entered, then separated by a comma, space or tab, then the first Y data element followed by a carriage return. Consecutive elements are entered with X element first, separator and then Y element followed by a carriage return.

The graph can be printed by selecting Print Graph from the file menu but cannot be saved. The graph can be copied through the clipboard or Scrapbook to some of your favorite graphics programs. A separate report of the X data, Y data and Y fit data can be printed by selecting Print Report from the file menu. These functions are rudimentary and will be expanded later. If anyone knows anything about saving PICT type files please contact me, I'm lost on that one!!

I need your response to this in order to make it work, so leave messages for me in my Email on Dragon Keep, the DUser's BBS. All suggestions will be taken into consideration. Your comments and criticisms are greatly appreciated. This is my first stab at a full-fledged Mac application.

Thanks Alot!!

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