Introduction
How to Use this Document

This document introduces prospective users to SigmaPlot for Windows, which currently runs under Windows XP/Vista/7. Those who do not own a personal copy of SigmaPlot for Windows may access the software from various UITS Student Technology Centers at IU. Vendor-supplied documents are available for reference at the Swain Hall, Business/SPEA and Education Libraries' Reserve Collections, IUPUI University Library, and at UITS Research Analytics (formerly the Stat/Math Center). Faculty members who are interested in arranging introductory workshops for their classes in using SigmaPlot for Windows may contact the UITS IT Training & Education Program. Contact Research Analytics, if you are a faculty or a staff, and interested in leasing SigmaPlot for Windows at an educational discount.

What is SigmaPlot?

SigmaPlot for Windows is a technical graphing program designed for the Windows Platform. It can be used effectively to produce all types of graphs and charts, including a nonlinear curve fitter, worksheets that accommodate large data sets and summary statistics. It has what it calls a mathematical transform language that allows you to manipulate and analyze data.

SigmaPlot enables you to create graphs quickly. It has easy-to-read icons on the Graph Toolbar and the interactive Graph Wizard, which prompts you for every step of graph creation. You'll be able to customize the graph detail by double-clicking on any graph element and the Graph Properties dialog box shows you how to specify different colors, sizes and symbols, and much more. SigmaPlot graphs can be copied and pasted to any open page, report, or into any other Windows application that supports pictures (e.g. Word, PowerPoint). SigmaPlot also seamlessly merges with Excel. You can use the power of Excel inside SigmaPlot, and SigmaPlot offers instant access from Excel.
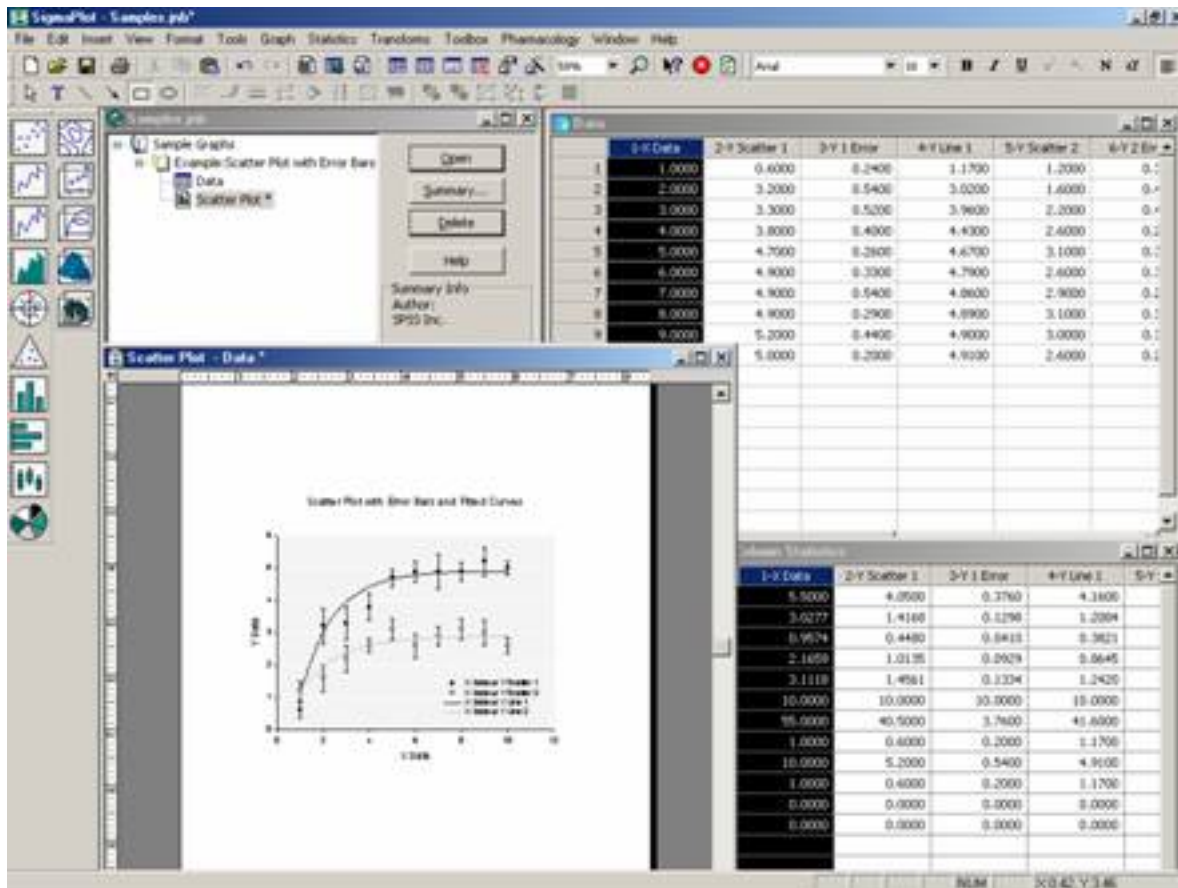
Hardware and Software Requirements

The minimum hardware and software requirements for SigmaPlot for Windows are:

- Windows XP, Vista, 7
- 1 GHz 32-bit (x86) or 64-bit (x64) Processor
- 1 GB of System Memory
- 100 MB of Available Hard Disk Space
- CD-ROM Drive
- 800x600 SVGA/256 Color Display or better
- Internet Explorer Version 6 or better

Orientation

The Interface

There are four types of windows in SigmaPlot

SigmaPlot Notebook Window:

The SigmaPlot Windows displays a list of data and graphs. While you work on SigmaPlot, you create a file called   gSigmaPlot notebook file   h. The file contains all your SigmaPlot data and graphs. The notebook displays what work has been done in a particular project.

Worksheet Window:

The Worksheet Window looks like a spread-sheet data editor. Graphs are made out of data in the Window. You can directly enter data from the keyboard or import data into this window.

Graph Page Window:

The Graph Page Window displays graphs and allows you to modify graphs made from your worksheet data.

Column Statistics Window:

The Column Statistics Window displays descriptive statistics from the current selected worksheet.

Menus in SigmaPlot

The top strip of SigmaPlot Window contains menus of things you can do. The menu shown above lets you create graphs from your worksheet data.

Toolbars in SigmaPlot

Toolbars have commonly used command buttons. (e.g., creating / opening a new notebook, saving and printing)

2 dimensional graph toolbar

3 dimensional graph toolbar

Drawing toolbar

Options in SigmaPlot

You can personalize your SigmaPlot session by altering the default Options settings.

- Select **Tools/Options**

- Click the tabs for the setting you want to change.
- Change the settings.
- Click **OK** or **Apply** button

Getting Started

Suppose you have three test scores collected from a class of ten students (5 females, and 5 males) during a semester. The information you have for each student is: identification number, gender, score for test one, test two and test three (the full data set is displayed toward the end of this section for you to enter into the Worksheet window).

Name	ID	Gender	Test1	Test2	Test3
Tim	1	M	20	23	24
Helen	2	F	21	26	28

SigmaPlot needs data in the worksheet (looks like a spreadsheet) to generate graphs. There are two ways to enter data: entering data directly or importing external data (e.g. Excel data) into a worksheet.

Entering Data

Let us open a Worksheet and enter the variable names and the data above.

1.Select **New** from the **File** menu. A new dialog box appears. Click **Ok** in the box.
2.Double-click on the top of the 1st column.
3.Type Name for the variable name. The name of the column shows 1-Name.

Define the remaining five variables as the same way.

Now, the top row should have six variable names. Let us key in the data.

4.Move the pointer to the cell below the variable Name, by clicking it.
5.Type in the data given above, pressing **ENTER** after each value. To move down columns, press the down arrow. To move right columns, press **TAB**.

Once you finish entering the data your Worksheet will appear as shown below.

	1-Name	2-ID	3-Gender	4-Test1	5-Test2	6-Test3	7	8
1	Tim	1	M	20	23	24		
2	Helen	2	F	21	26	28		
3	Kevin	3	M	23	24	28		
4	Tammy	4	F	17	19	23		
5	Jeff	5	M	24	23	25		
6	Cathy	6	F	23	24	24		
7	John	7	M	23	25	25		
8	Julie	8	F	20	18	28		
9	Adam	9	M	18	19	20		
10	Teresa	10	F	17	20	24		
11								
12								
13								
14								
15								
16								
17								
18								

Importing External Data

Suppose we have an Excel file (e.g. Clas.xls). We are going to import the data into SigmaPlot.

1. Open the worksheet and Select **Import** from the **File** menu.
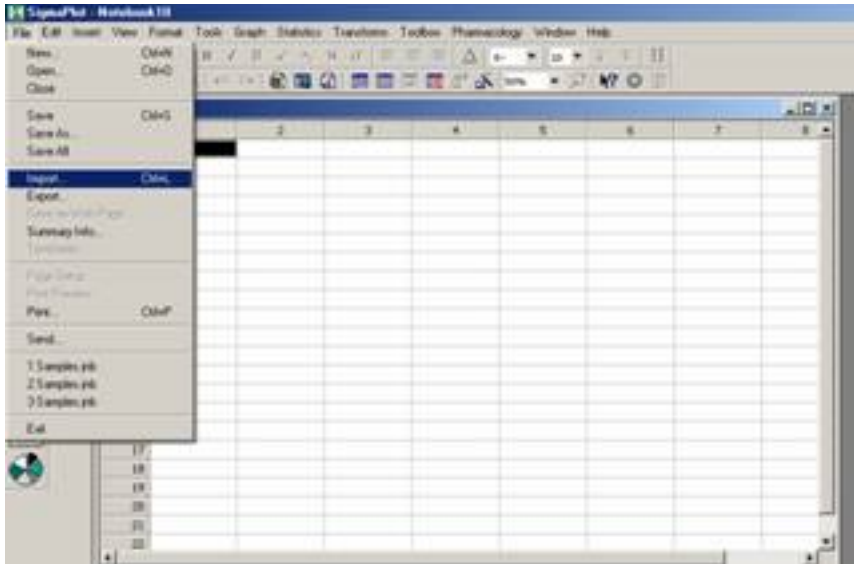
2.An Import File dialog box appears. Click **Import** in the box.
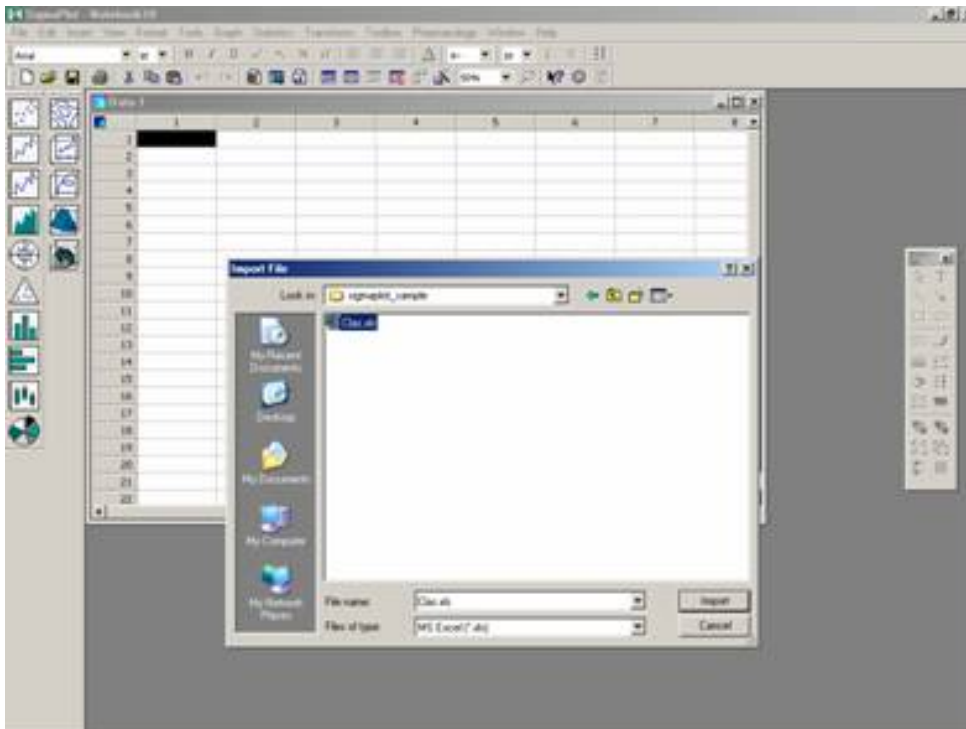
3. An Import Spreadsheet dialog box appears. This box asks you the name of sheet from the Excel file and the range of the data. We are going to import the entire data from Sheet1.
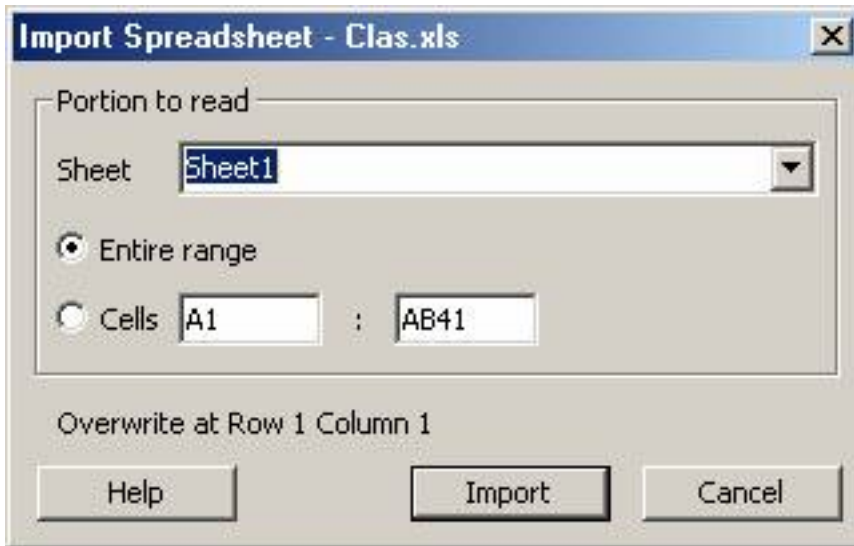
4. Click **Import**.
5. The imported data looks as below:

Generating Graphs

After the data has been entered into the worksheet, Graphs can be conducted using this data. There are two ways of creating a graph:

- Using the Graph Wizard.
- Clicking an icon on the toolbar.

In the following examples we are going to use the Graph Wizard to generate bar charts, error bars, 2D line plot and 3D scatter plot.

Bar Charts

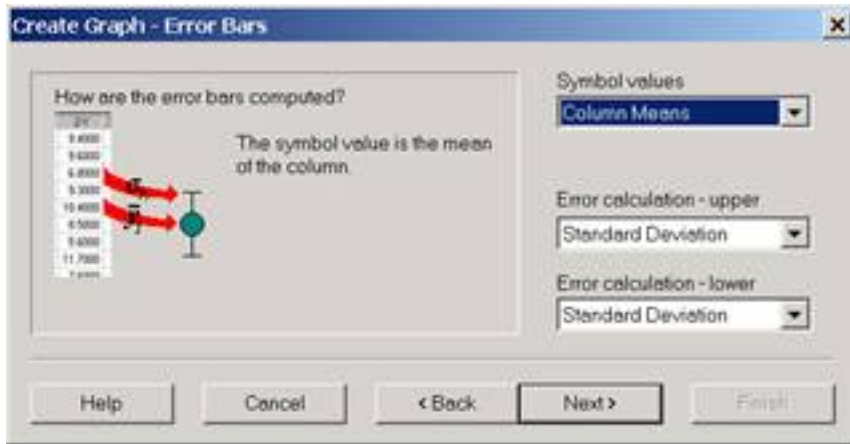1.Shown below is the Clas.xls data imported into SigmaPlot.

2.To open the Graph Wizard, select **Create Graph** from **Graph** menu or press **F3** key. The Graph Wizard prompts you to specify a graph type. Choose **Vertical Bar Chart** from the scroll down list. Then click **Next**.
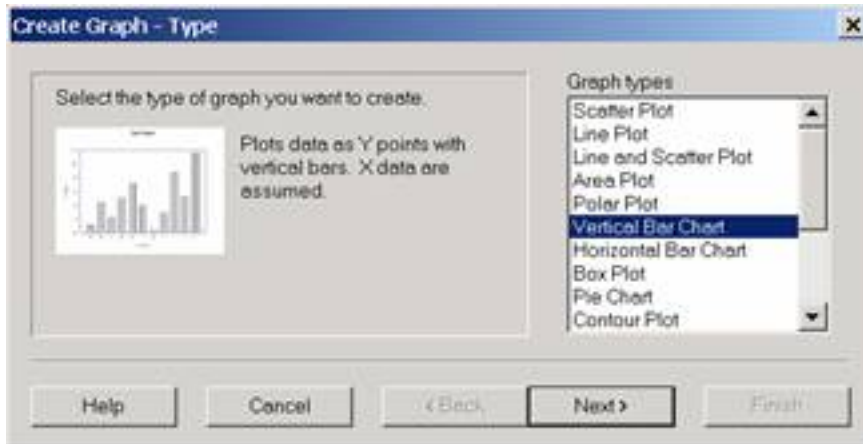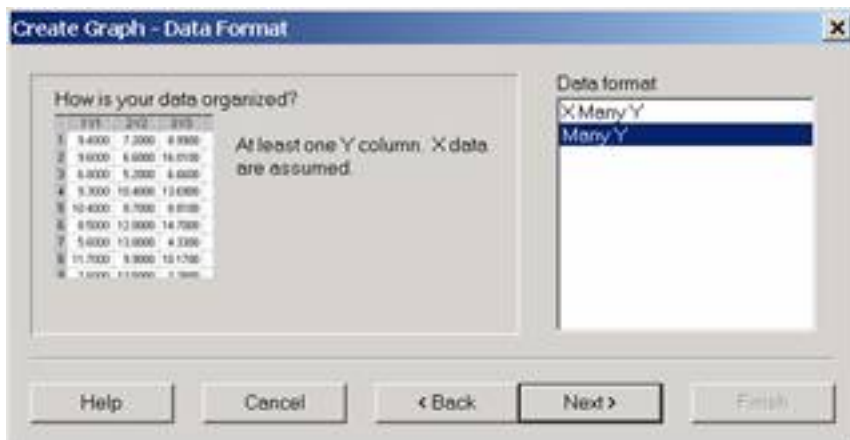
3. The Graph Wizard prompts you to specify a graph style. Choose **Simple Bar** from the scroll down list. Then click **Next**.
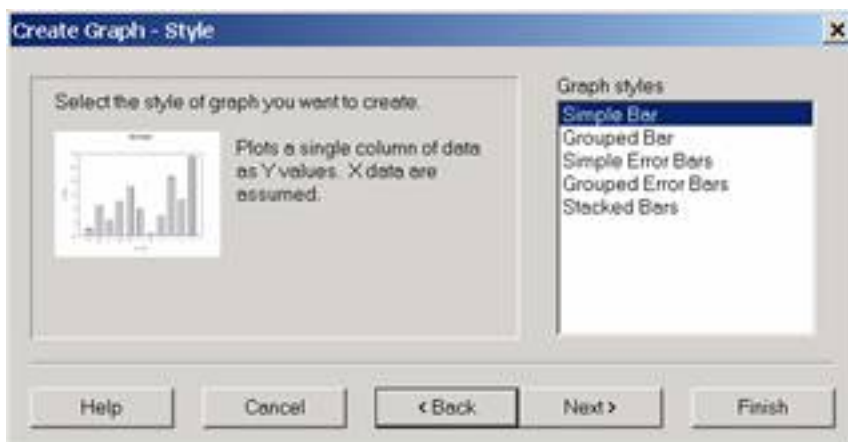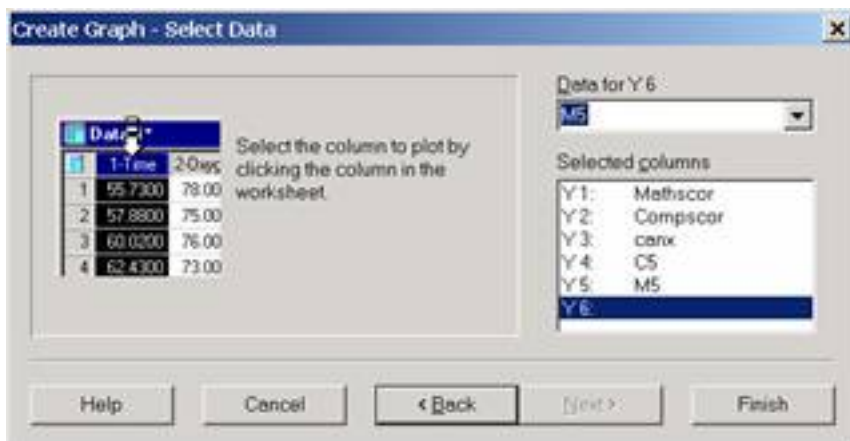

4. The Graph Wizard prompts you to select a data format. Choose **XY Pair** from the scroll down list. Then click **Next**.
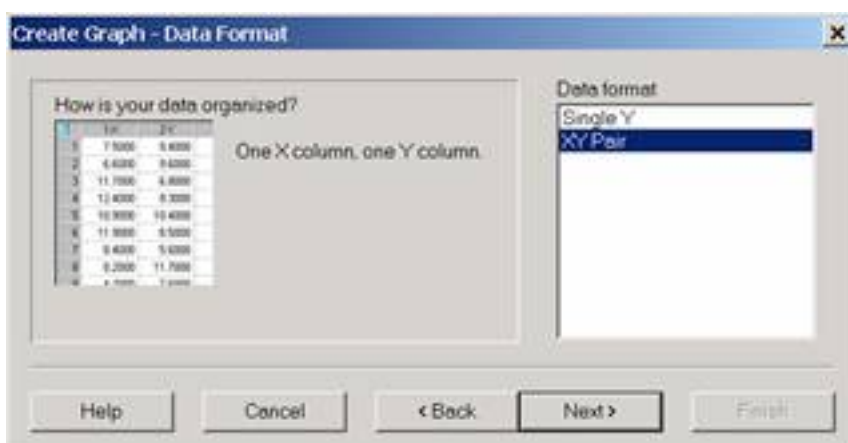
5.The Graph Wizard prompts you to specify the columns of the data you want to graph. Click the column ID in the worksheet to assign it to the X and Mathscor to Bar. Then click **Finish**.
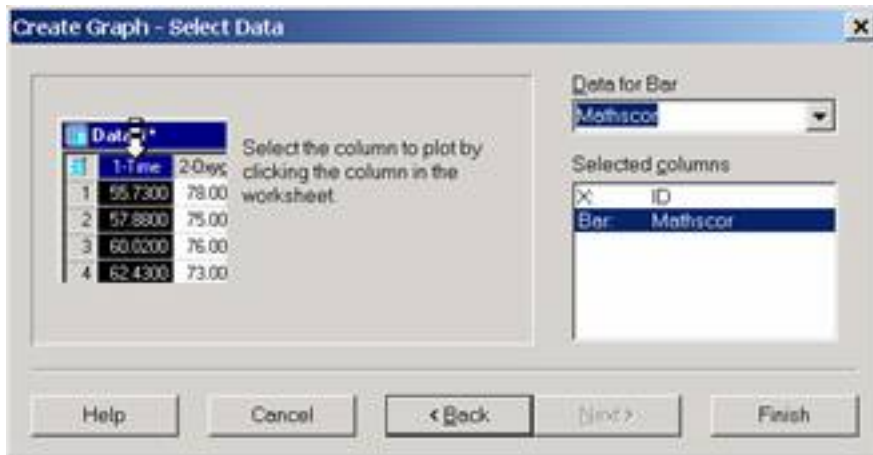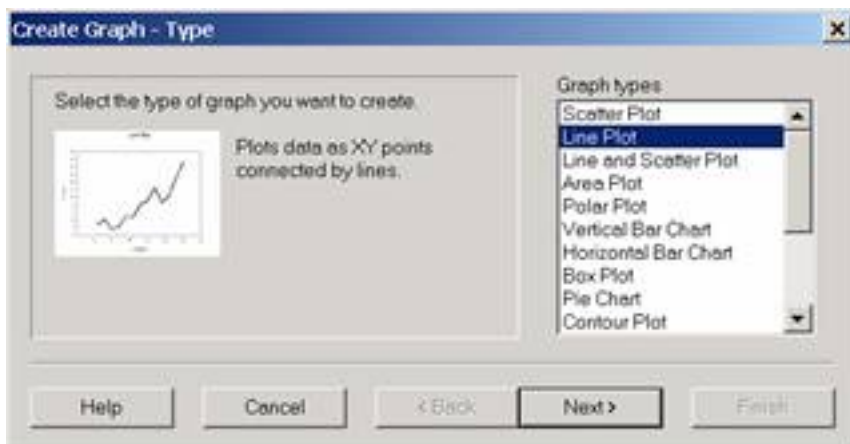

6.The bar chart generated looks like the one shown below:
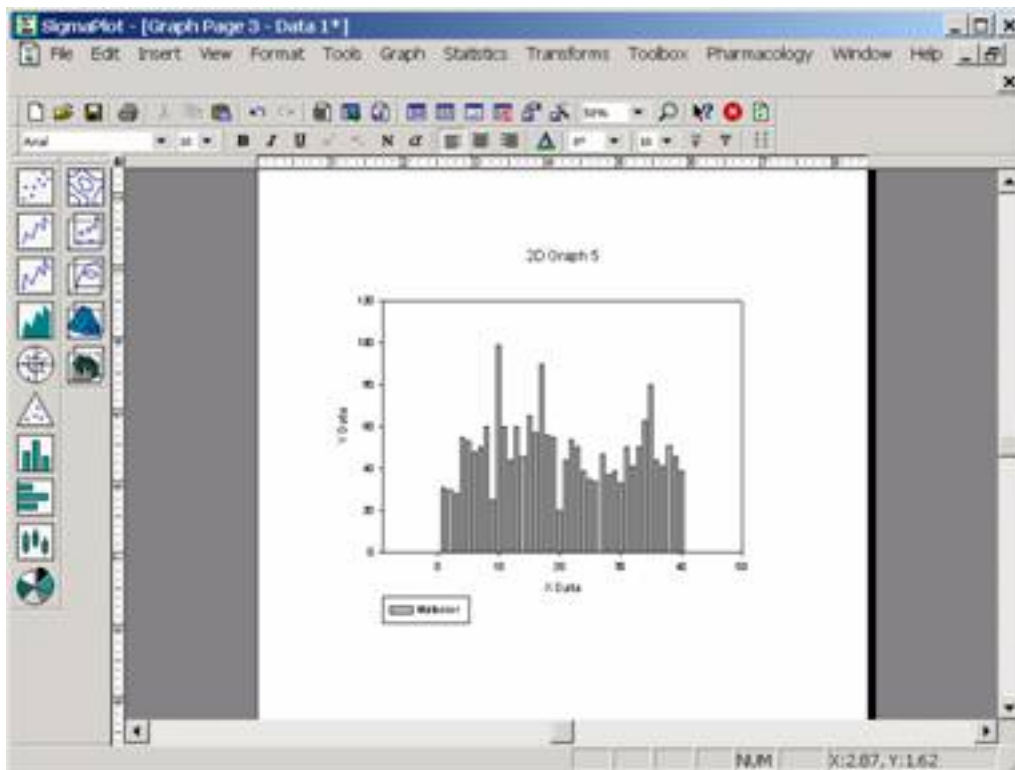
Error Bars

1. To open the Graph Wizard, select **Create Graph** from **Graph** menu or press **F3** key. The Graph Wizard prompts you to specify a graph type. Choose **Scatter Plot** from the list of Graph Types and click **Next**.
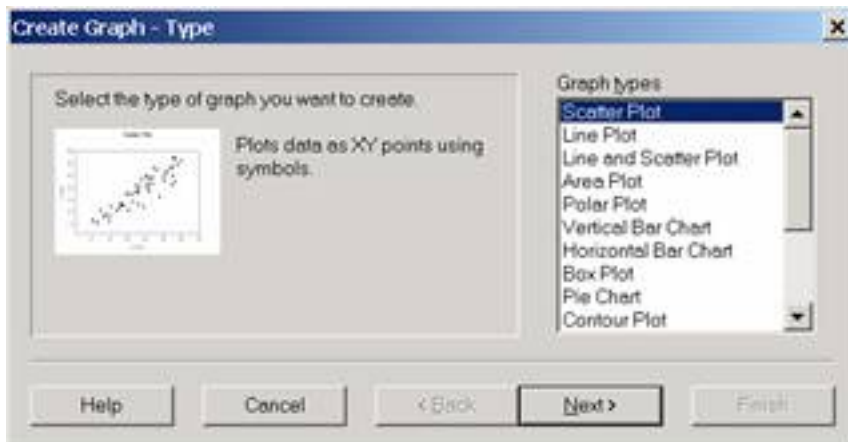
2. The Graph Wizard prompts you to specify a graph style. Choose **Simple Error Bars** from the list of Graph Styles and click **Next**.
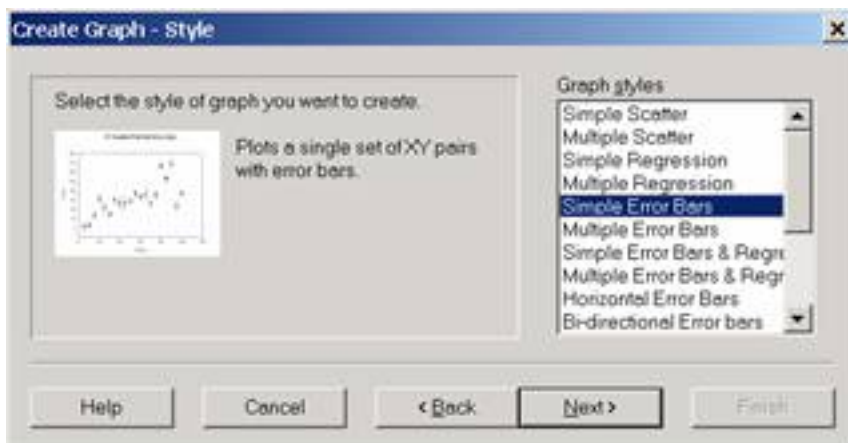
3. The Graph Wizard prompts you to specify Symbol value and Error calculation (upper, lower). Choose **Column Means** from the scroll down list as the symbol value. Choose **Standard Deviation** for both of upper and lower Error calculation. Then click **Next**.

Create Graph – Error Bars

How are the error bars computed?

The symbol value is the mean of the column.

Symbol values
Column Means

Error calculation - upper
Standard Deviation

Error calculation - lower
Standard Deviation

Help   Cancel   < Back   Next >   Finish

4.The Graph Wizard prompts you to select a data format. Choose **Many Y** and then click **Next**.

Create Graph – Data Format

How is your data organized?

At least one Y column. X data are assumed.

Data format
X Many Y
Many Y

Help   Cancel   < Back   Next >   Finish

5.The Graph Wizard prompts you to specify the columns of the data you want to graph. Click the column Mathscor in the worksheet to assign it to Y1, Compscor to Y2, canx to Y3, C5 to Y4 and M5 to Y5. Then click **Finish**.

Create Graph - Select Data

Select the column to plot by clicking the column in the worksheet.

Data for Y 6
M5

Selected columns
Y 1:   Mathscor
Y 2:   Compscor
Y 3:   canx
Y 4:   C5
Y 5:   M5
Y 6:

Help   Cancel   < Back   Next >   Finish

6.The error bar generated looks like the one shown below:
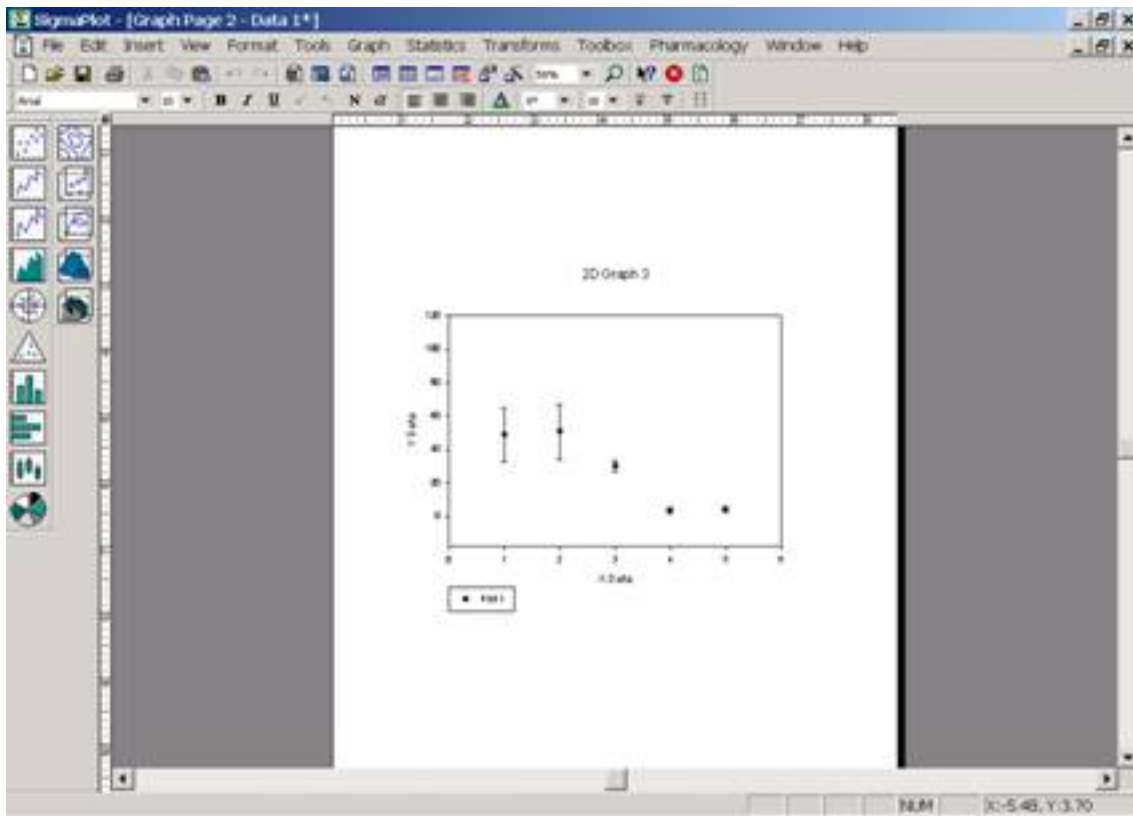
2D Line Plot

1.To open the Graph Wizard, select **Create Graph** from **Graph** menu or press **F3** key. Select **Line Plot**, and then click **Next**.

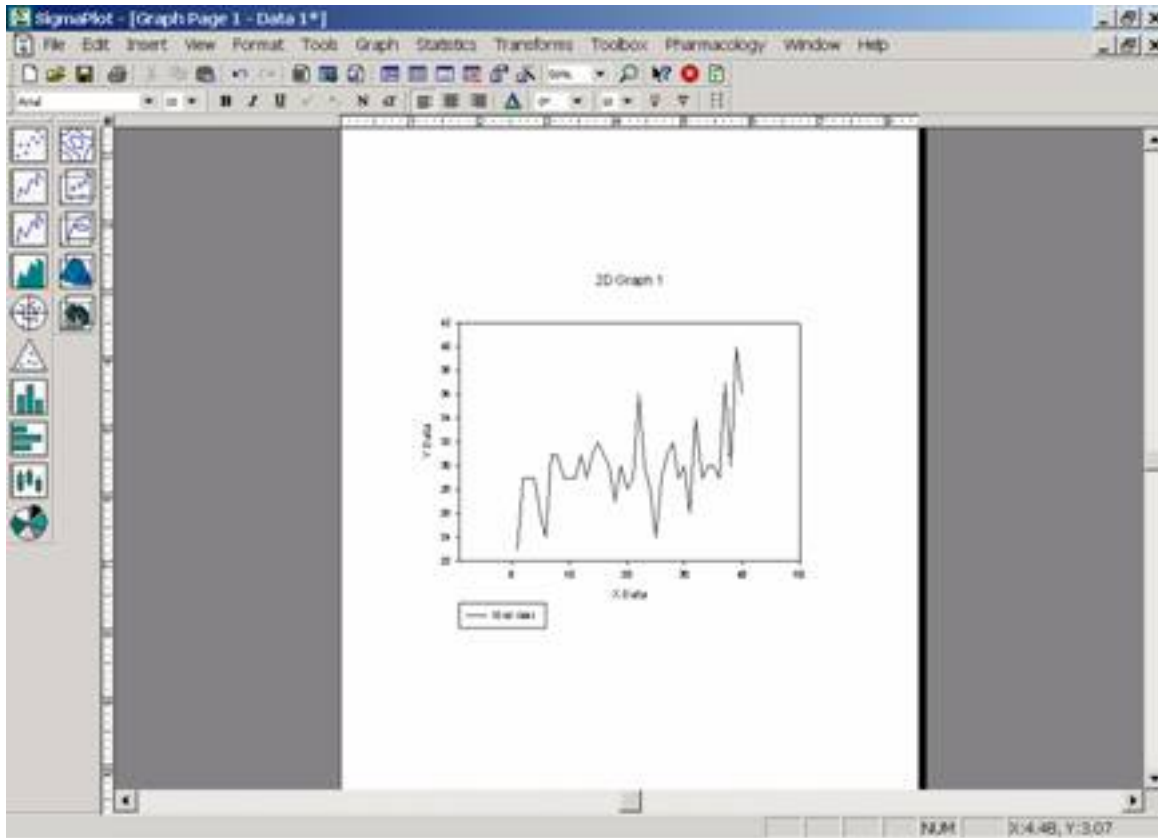2.Select **Simple Straight Line**, and then click **Next**.
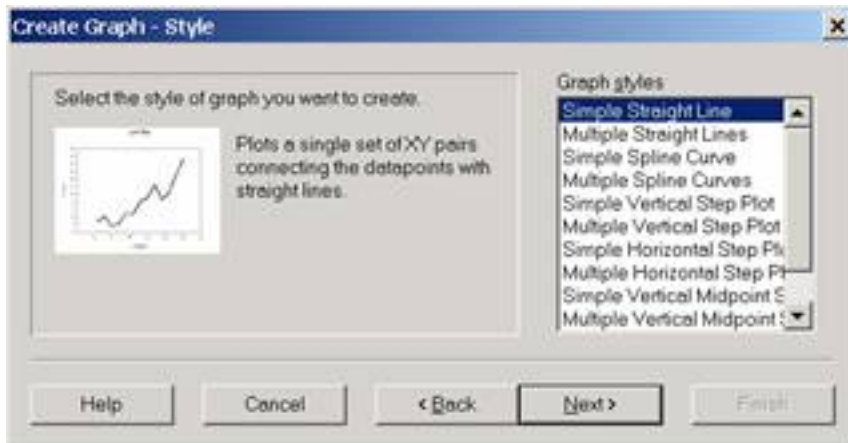
3.Select **XY Pai**r, and then click **Next**.
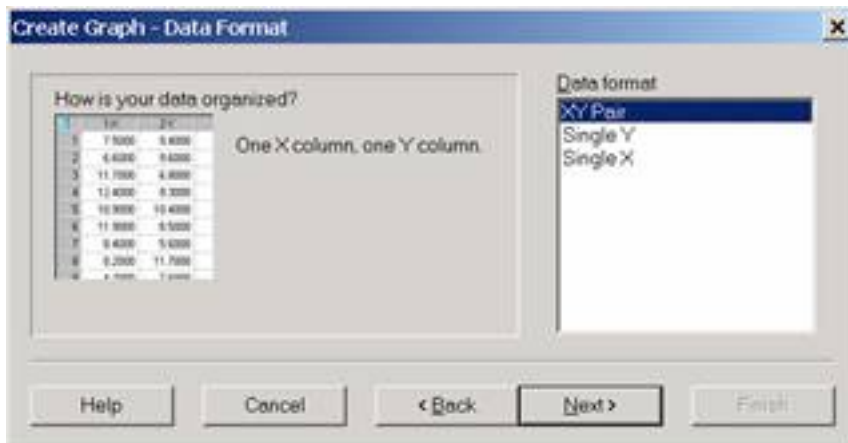
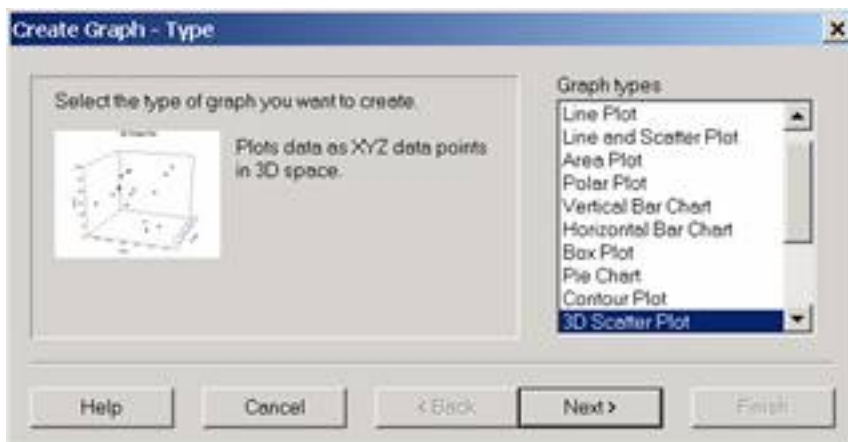4.Select ID on the worksheet for X, and canx for Y, then click **Finish**.
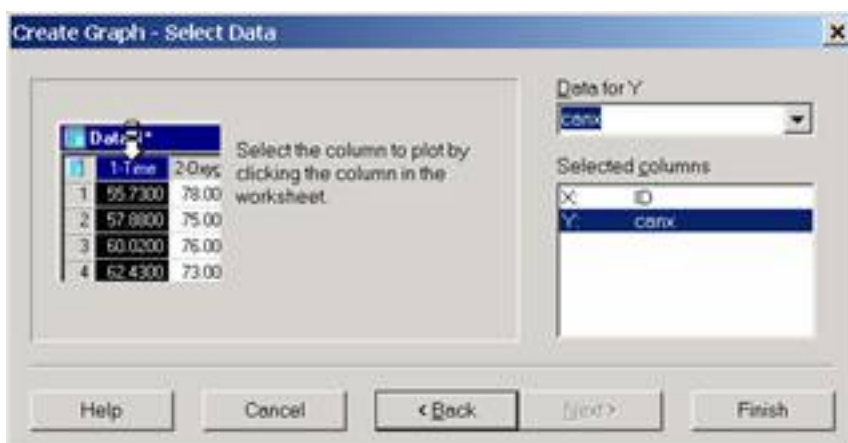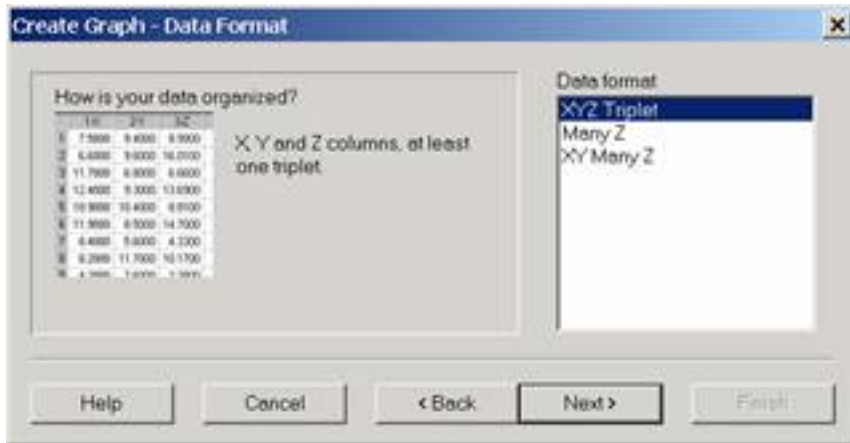
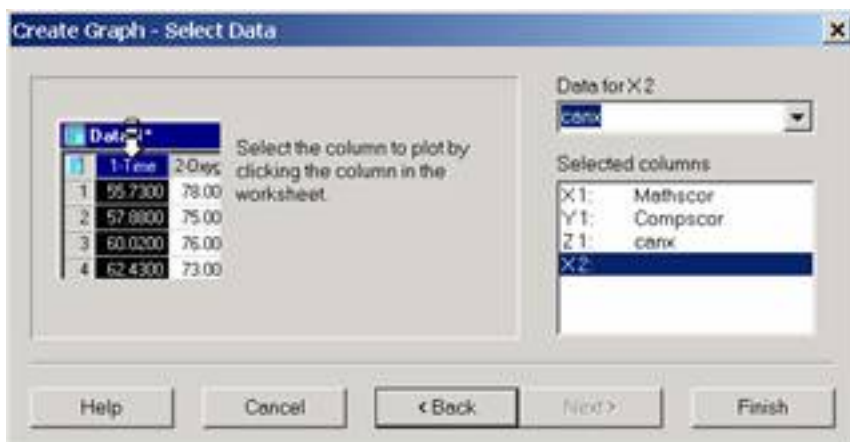5.A generated 2D line plot looks like the one shown below:

3D Scatter Plot

1.To open the Graph Wizard, select **Create Graph** from **Graph** menu or press F3 key. The Graph Wizard prompts you to specify a graph type. Choose **3D Scatter Plot** from the list of Graph Types and click **Next**.

2.The Graph Wizard prompts you to select a data format. Choose **XYZ Triplet** and then click **Next**.

3.The Graph Wizard prompts you to specify the columns of the data you want to graph. Click the column Mathscor in the worksheet to assign it to X, Compscor to Y and canx to Z. Then click **Finish**.

4.A generated 3D scatter plot looks like the one shown below:
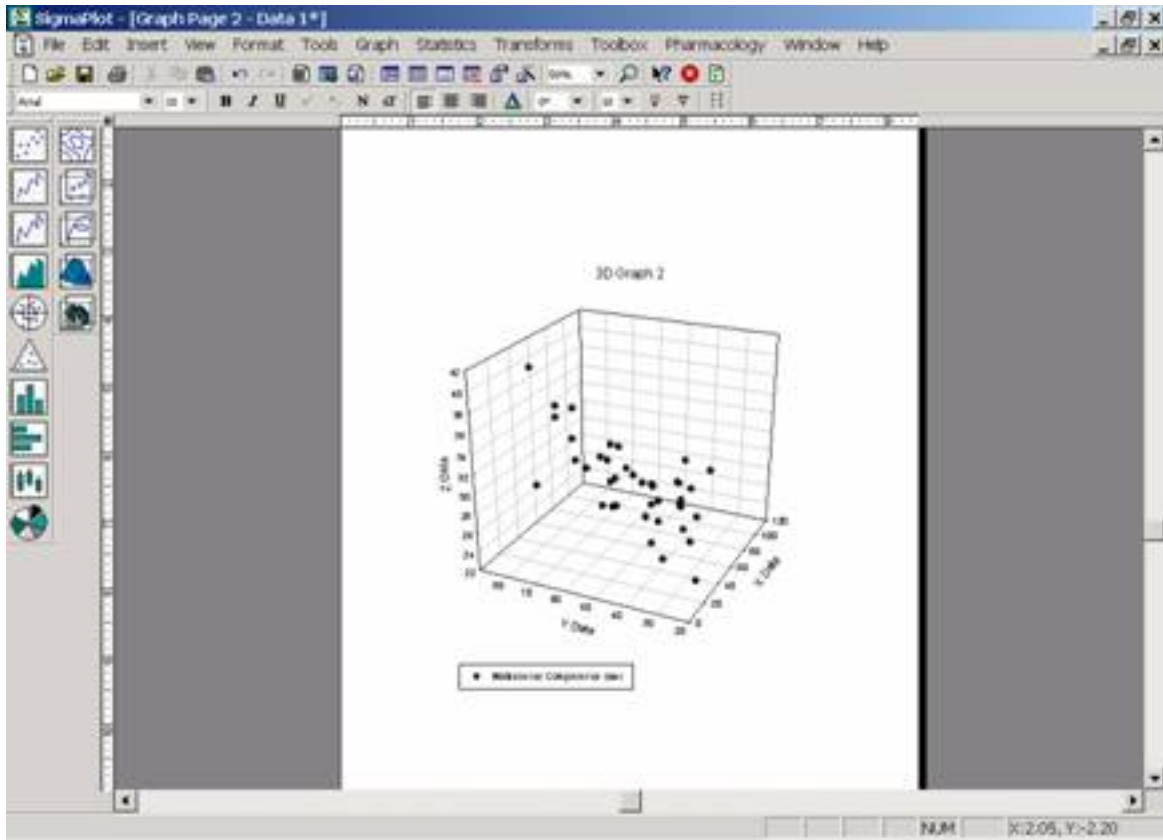
Editing Graphs

From the Clas.xls data imported into SigmaPlot, (1) Select **Create Graph** from **Graph** menu and select **Scatter Plot** then click **Next**. (2) Select **Simple Scatter** then click **Next**. (3) Select **XY Pair**then click **Next**. (4) Select ID on the worksheet for X, and Mathscor for Y, then click **Finish**.
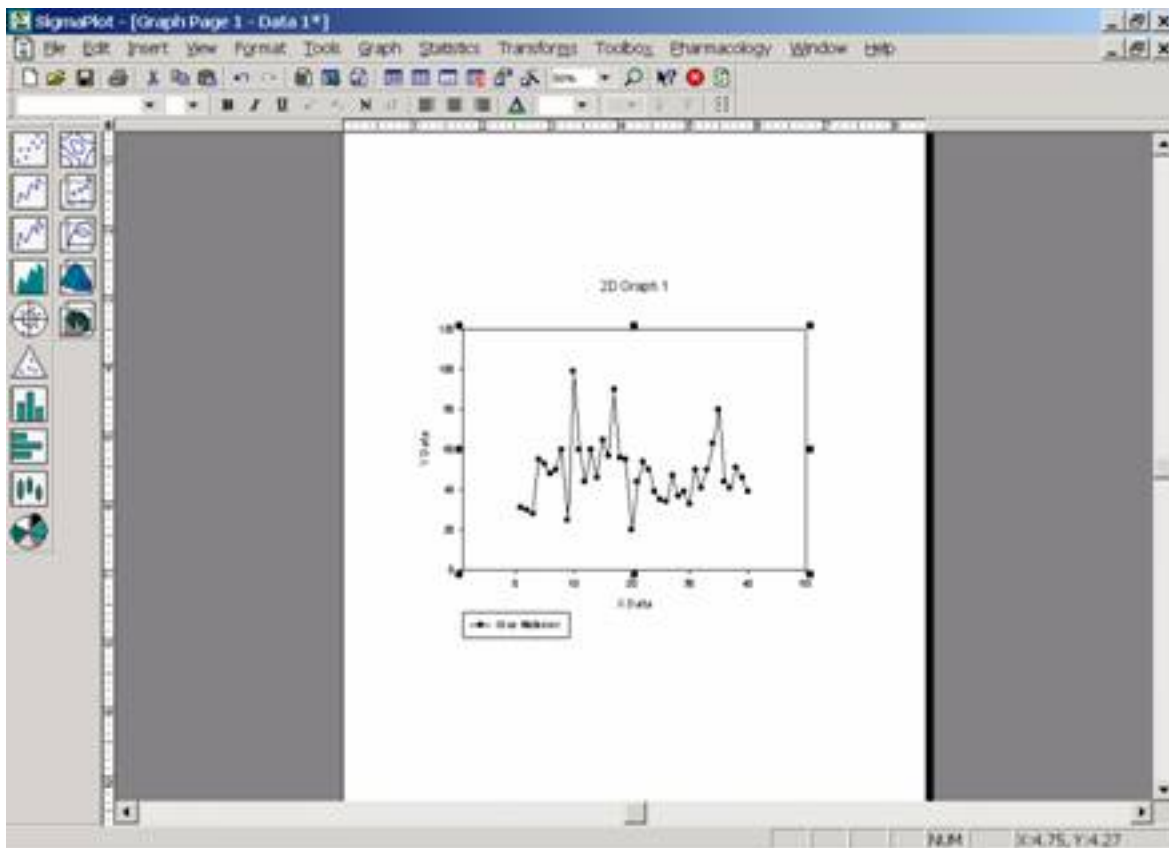
A 2D scatter plot generated is shown below:
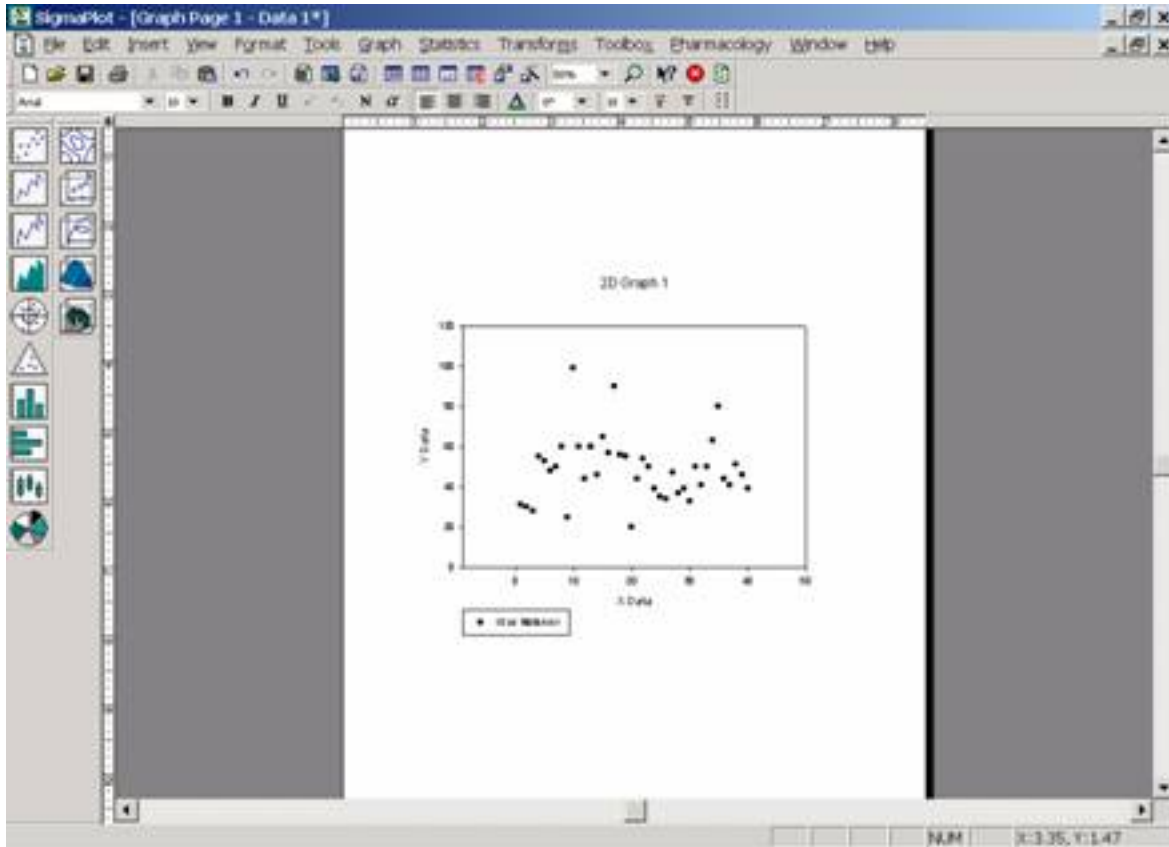
Adding a Line Plot
1.Select **Graph Properties** from **Graph** menu.
2.The Graph Properties window opens. Click the **Plots** tab. From the scroll down list, choose **Plot1**. Click **Lines** from the **Settings for** scroll down list. Choose **Solid** from the **Type** scroll down list. Click **OK**.
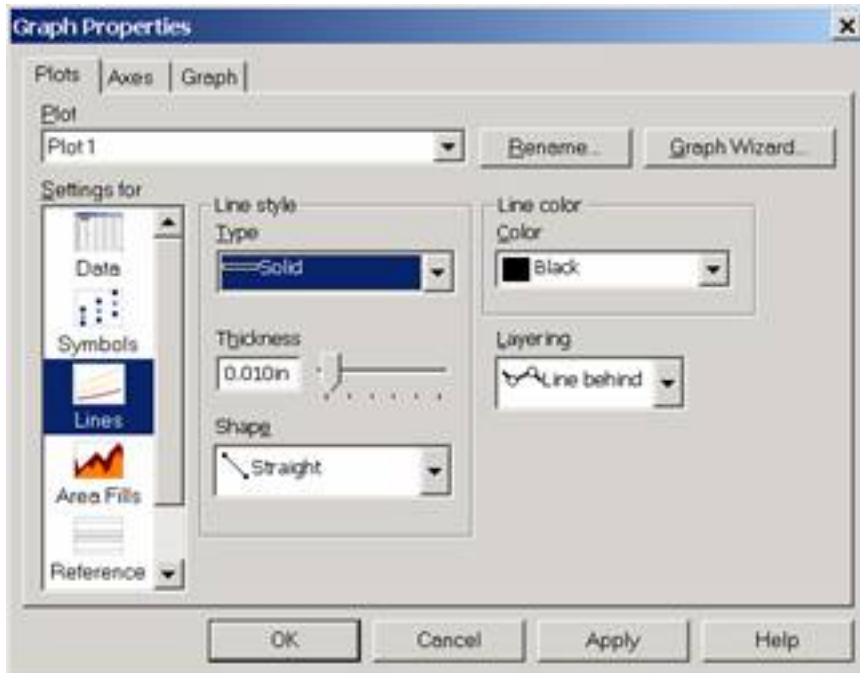
3.A line is added into the graph like the one shown below:

Adding a Title, Legend and Axis Titles

Most graph modifications are made using the **Graph Properties** dialog box. To add a Title, Legend and Axis Titles:
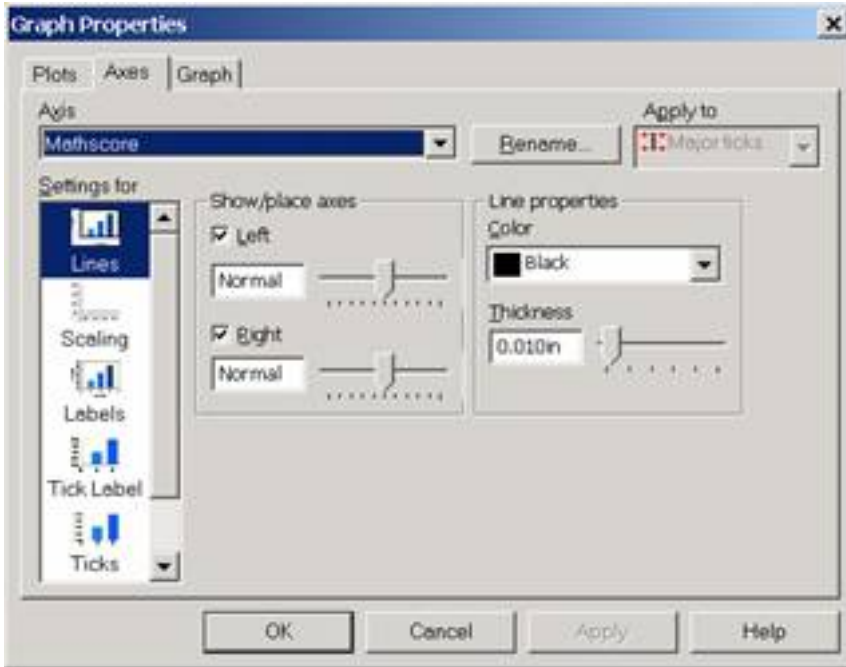
1. Select **Graph Properties** from **Graph** menu.
2. The Graph Properties window opens. Click the **Graph** tab and then select **Plots** from the **Settings for** scroll down list.
3. Change the Title of the graph by clicking on the Rename button and typing in Math Score. Click **OK** in the Edit Text window.

4. Click **Legends** from the **Settings for** list. Click **Edit** to change the legend text to Mathscore for Students. Click on **Apply** to apply the changes.

5. To change the axis titles, click the **Axes** tab. Select X data from Axis scroll down list, then click **Rename**. Type the axis title ID, click **OK**. Rename Y data Mathscore as a new title for Y-axis.
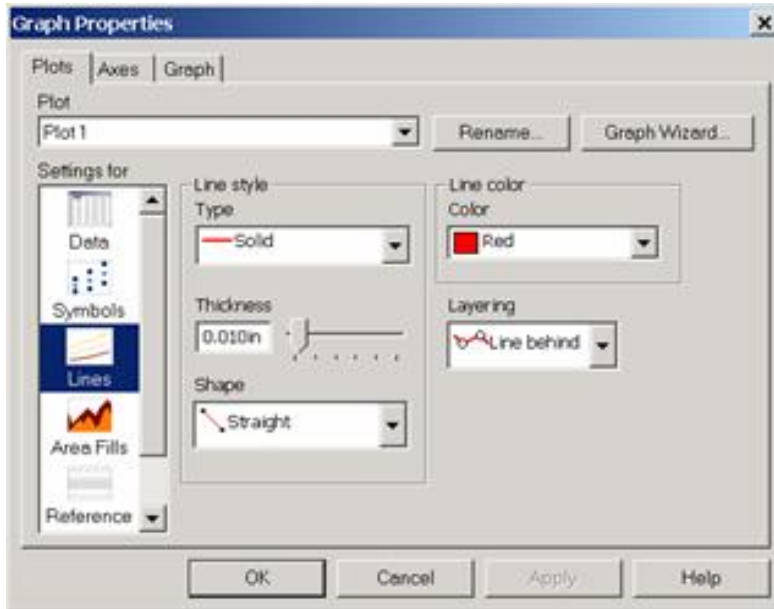
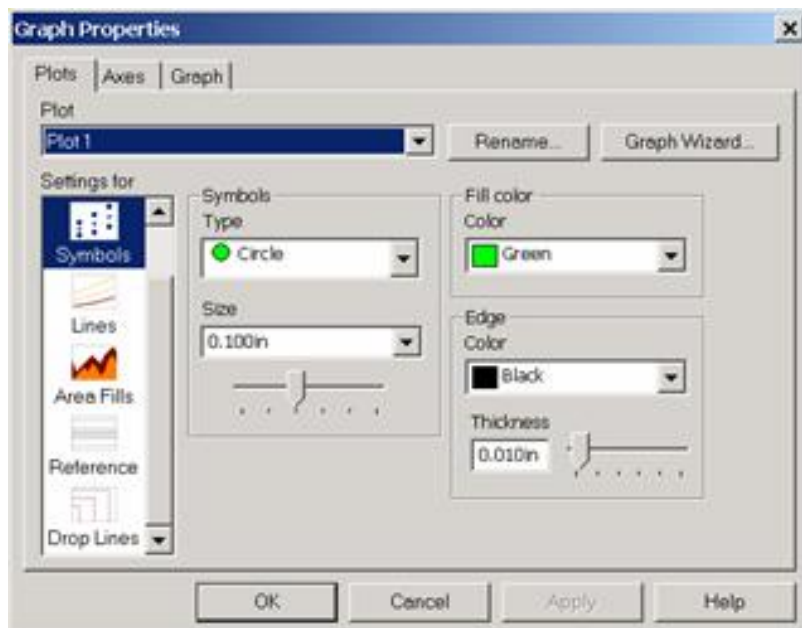6.The graph looks like the one shown below:

Math Score
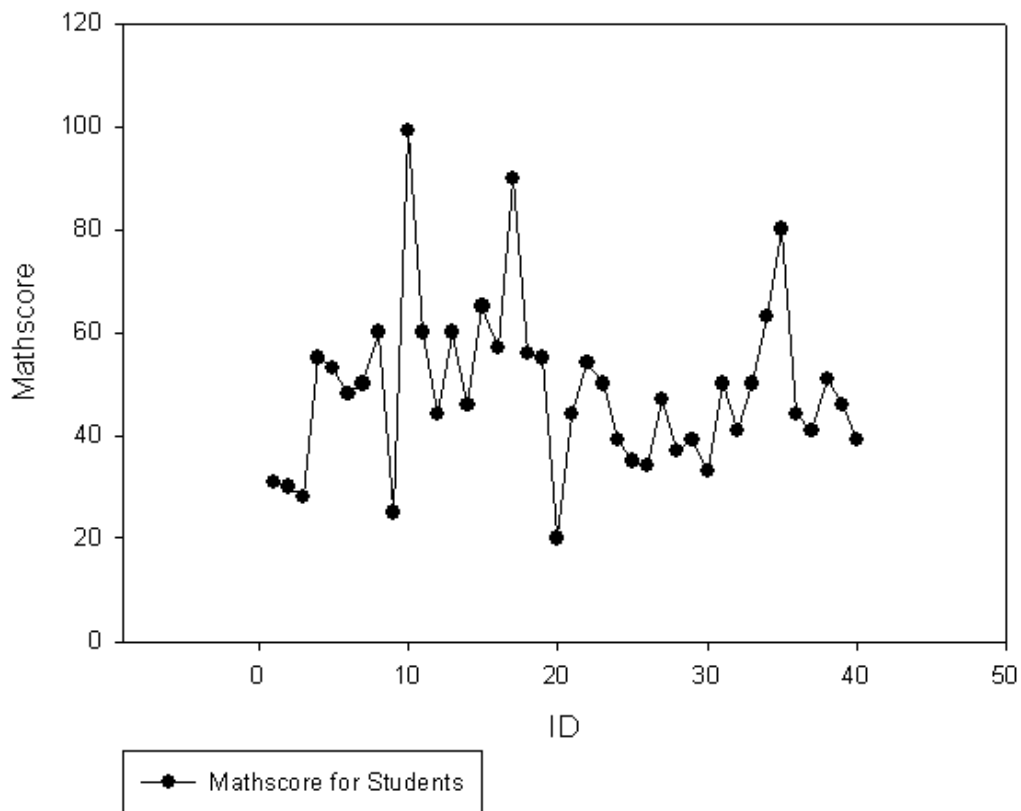
Adding / Changing Colors

Suppose you want to change the line and the symbol colors.

1.Select **Graph Properties** from **Graph** menu.
2.The Graph Properties window opens. Click the **Plots** tab and then select **Lines** from the **Settings for** list. Choose **Red** from Line color scroll down list. Click **Apply**.

3.Click **Symbols** from the **Settings** for list and choose the **Green** color from **Fill color** scroll down list. Click **Apply**.

4.The graph looks like the one shown below:

Math Score
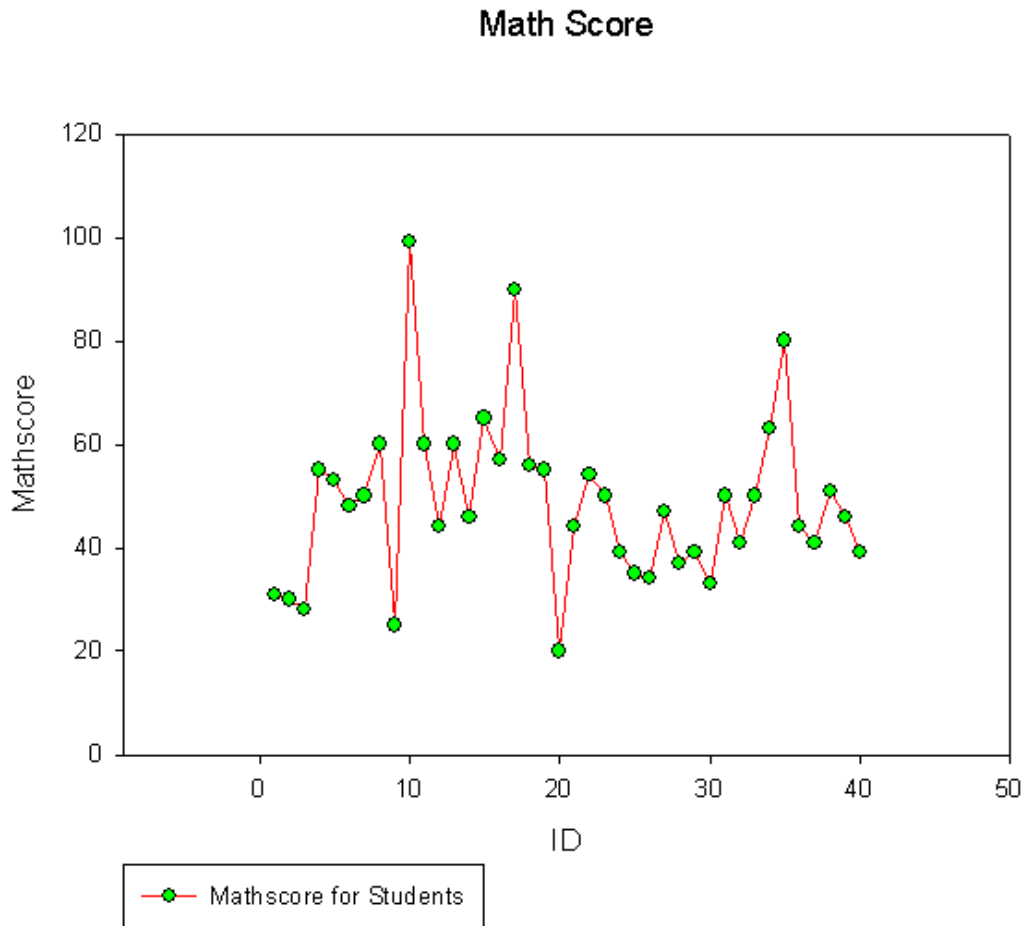
Saving the Graphs

To save SigmaPlot file containing both the graph and the worksheet:

1.Select **Save As** from **File** menu.
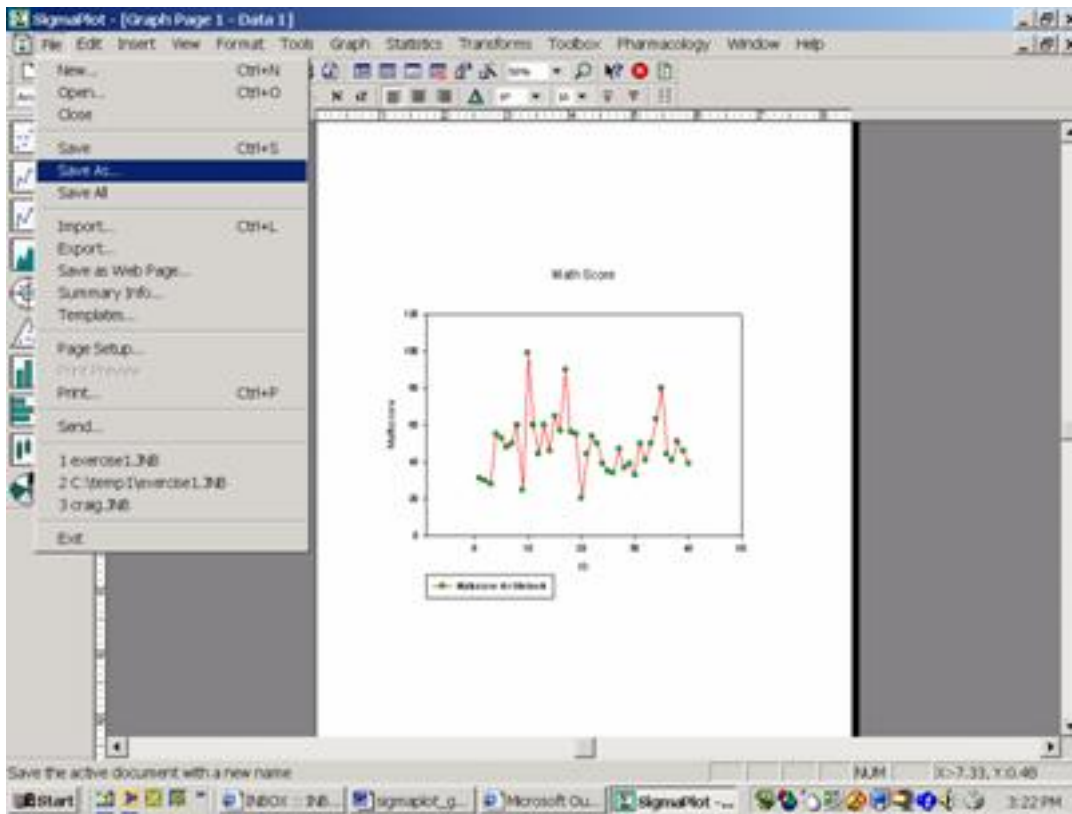
2.The Save as dialog box appears. Navigate to the directory where you want to save your notebook (e.g. **C:/temp)**.
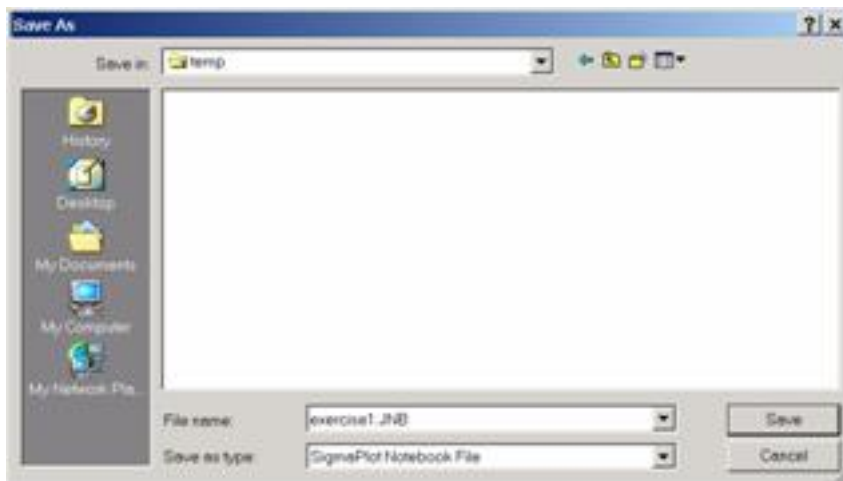
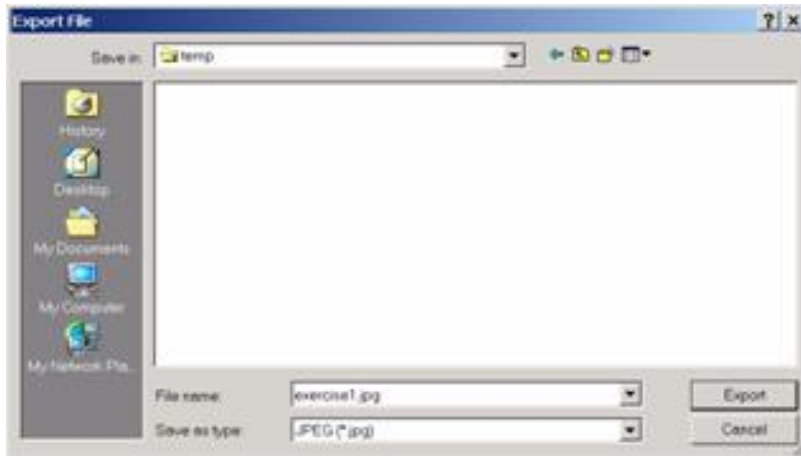3.Enter a File name for the SigmaPlot Notebook, e.g. **exercise1.JNB**
4.Click **Save**.

Exporting Graphs

You can export your SigmaPlot graphs (.jnb) into another format (e.g., .jpg). To export your graphs into another format:
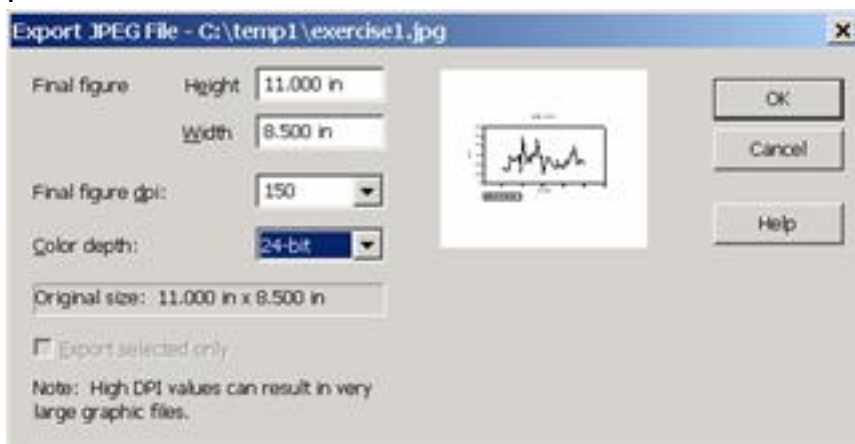
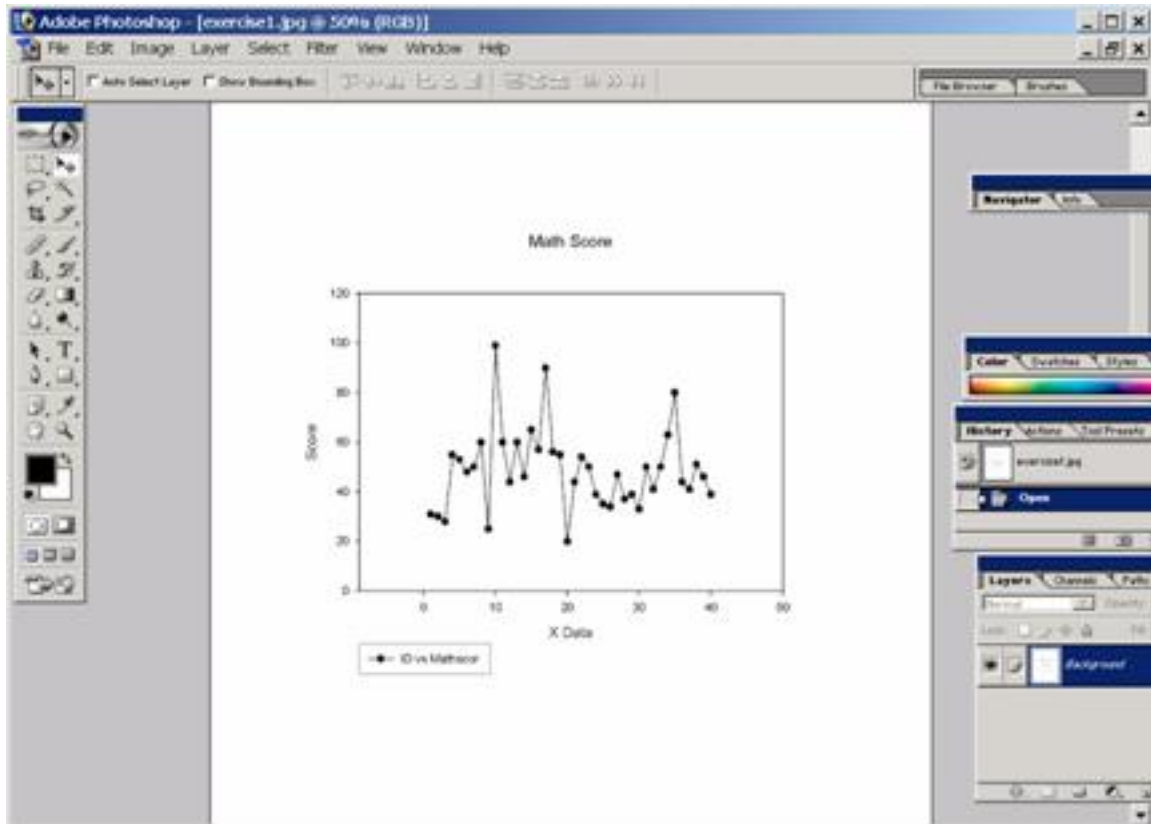1. Click on the Graph Page window and then select **Export** from **File** menu.
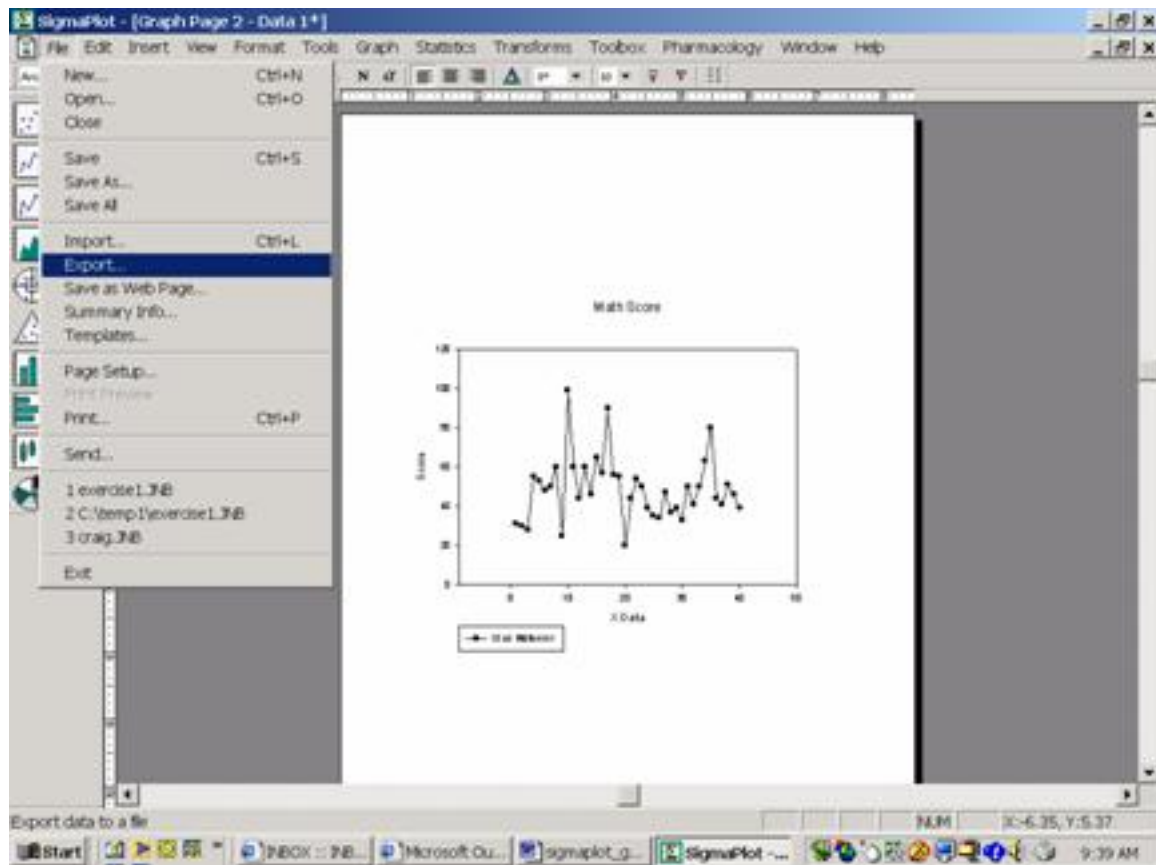
2. Export File dialog box open, navigate to where you want to export your file, e.g. **C:/temp**

3. Select the file type JPEG (*.jpg) from **Save as type** scroll down list.
4. Enter a file name. **exercise1.jpg** , then click **Export**.
5. Export JPEG File dialog box shows up, you can edit the size of the graph, and then click **OK**
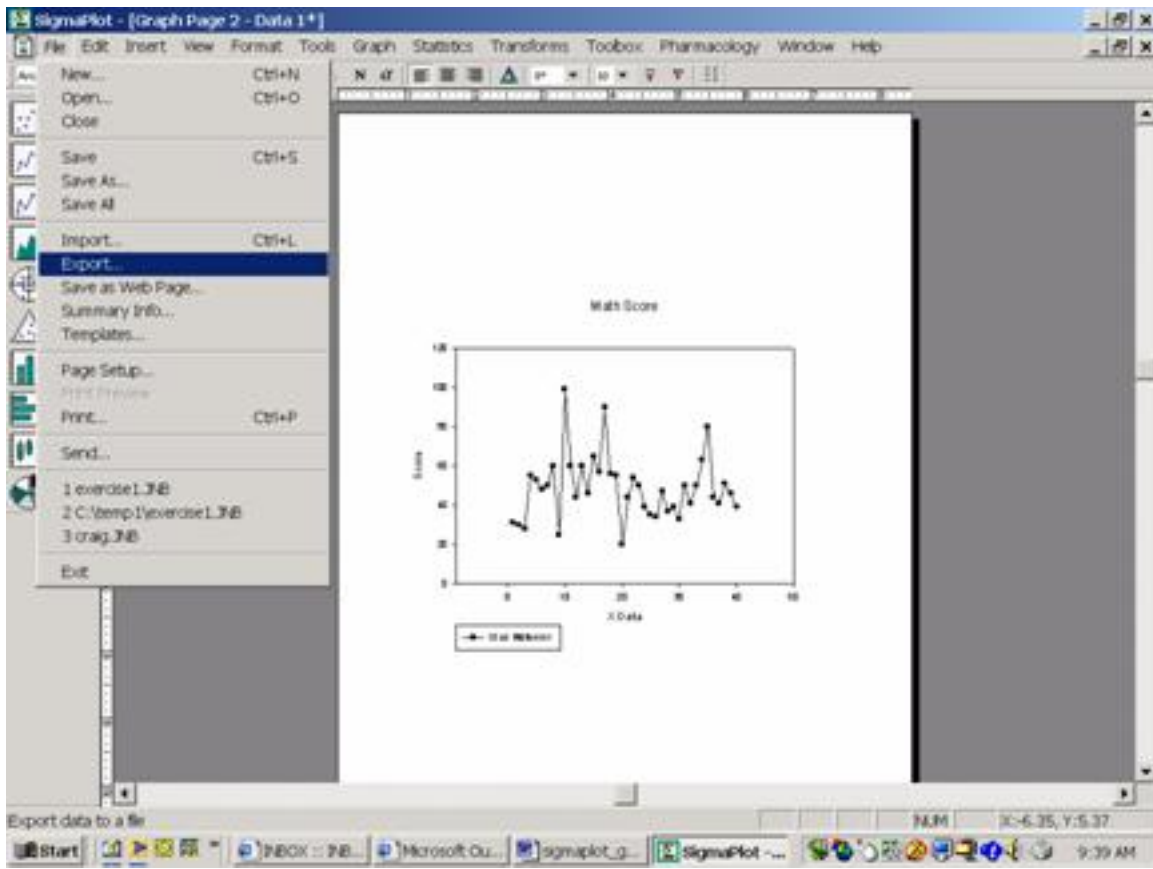
.

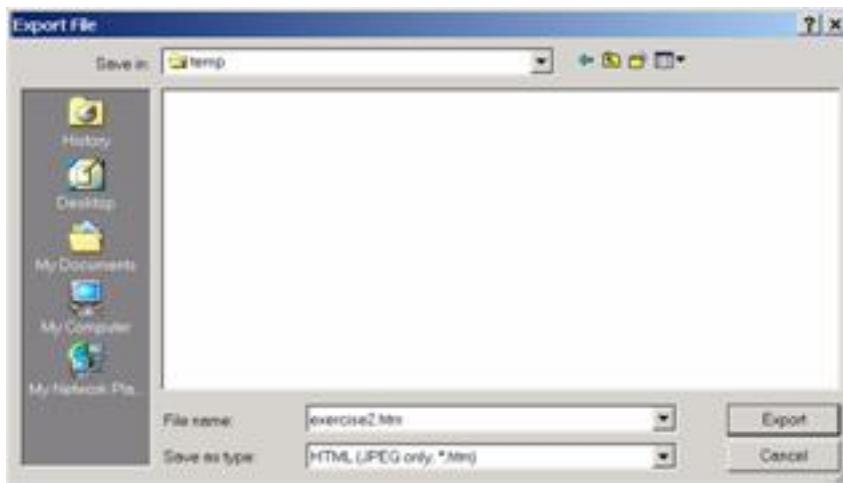6. The file is saved as **.jpg** format file and it looks like:

Publishing Graphs on the Web

To display your graphs on the web, you need to generate html web format or jpg graphic format files.

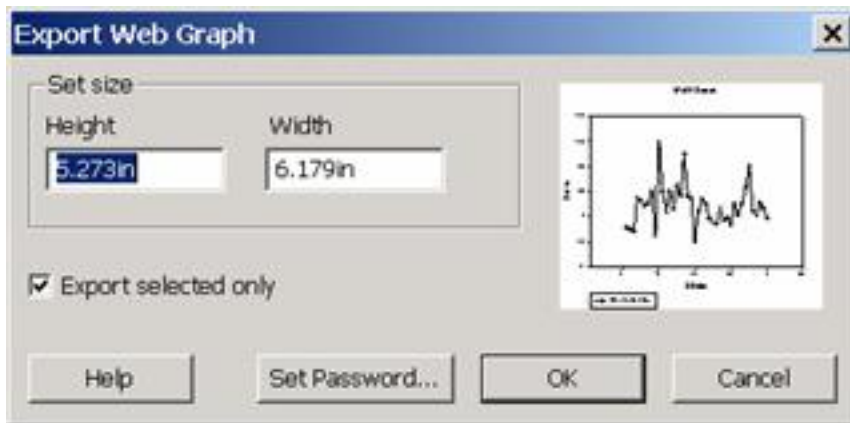1. Click on the Graph Page window and then select **Export** from **File** menu.

2. Export File dialog box open, navigate to where you want to export your file, e.g. **C:/temp**
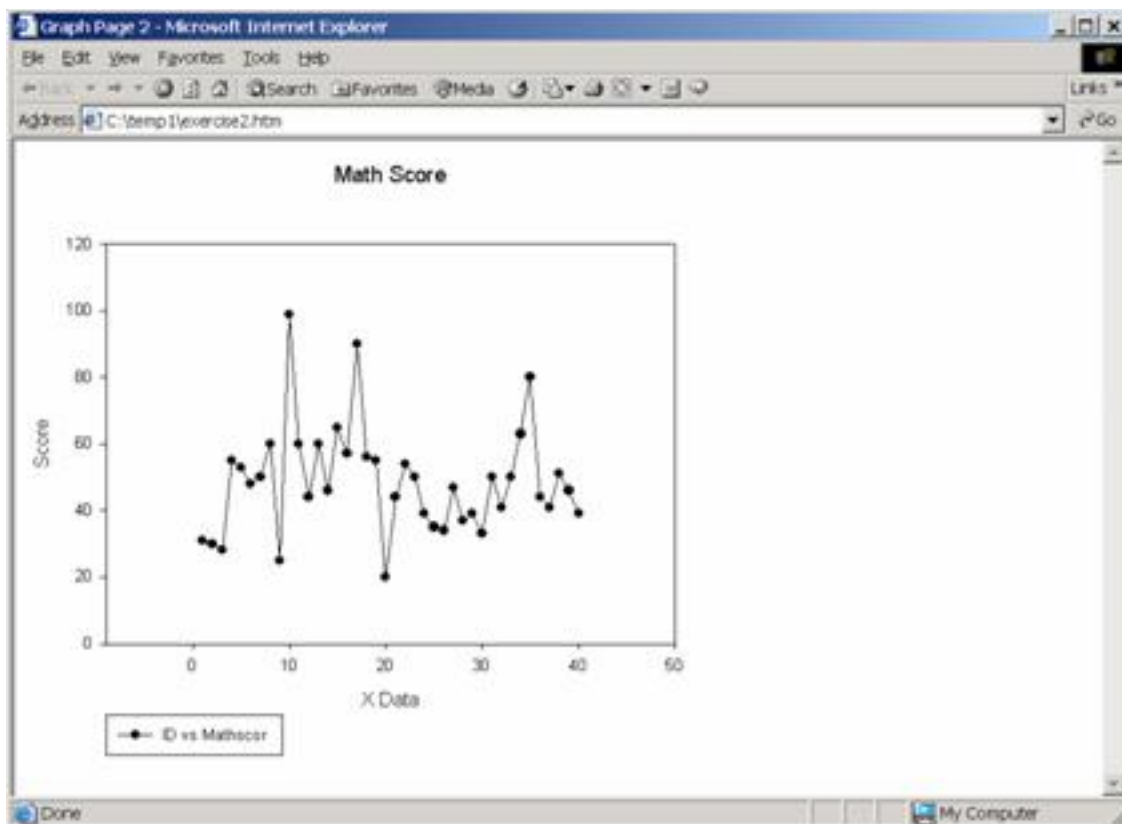

3. Select the file type HTML (JPEG only, *.htm) from **Save as type** scroll down list.
4. Enter a file name. **Exercise2.htm**, then click **Export**.
5. Export Web Graph dialog box opens, you can edit the size of the graph, and then click **OK.**

6. The file is saved as **.htm** format file and it looks like:

Publishing Power Point Presentation

SigmaPlot allows you to move your graphs to your PowerPoint slides by just dragging and dropping the graphs. Within your slides, you can change text and graph color.
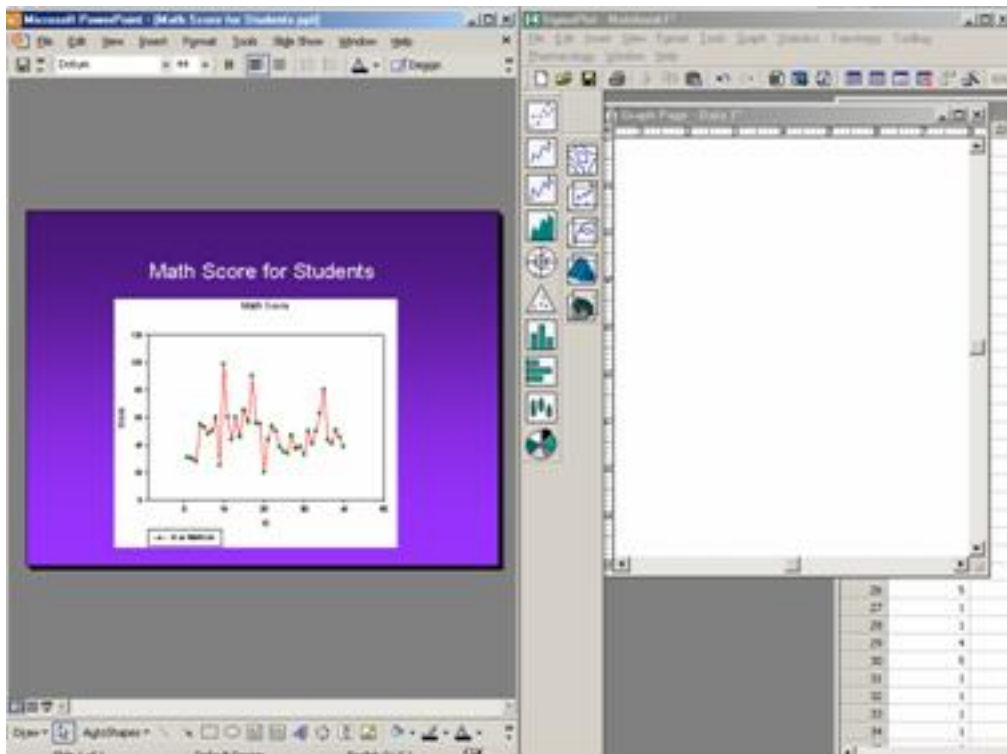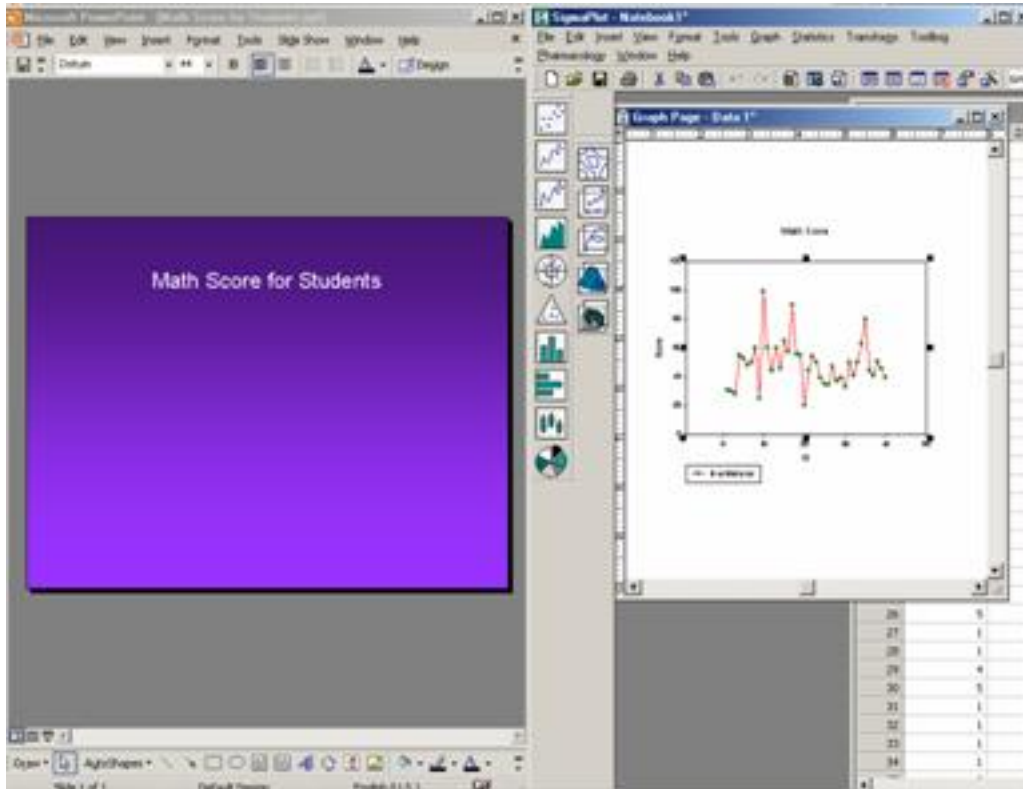
1. Suppose you have a PowerPoint slide as follows:
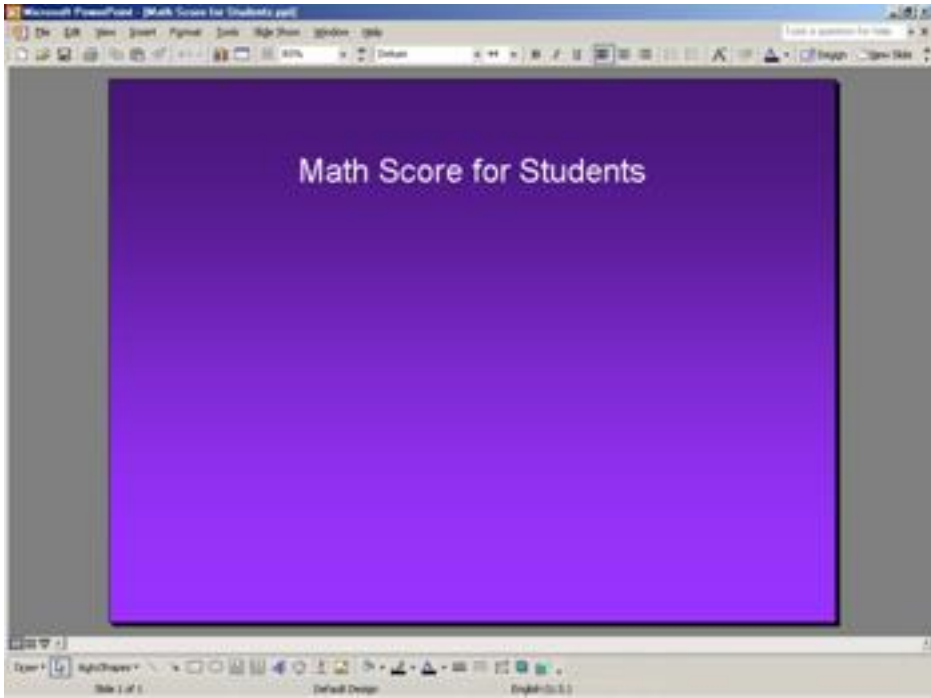
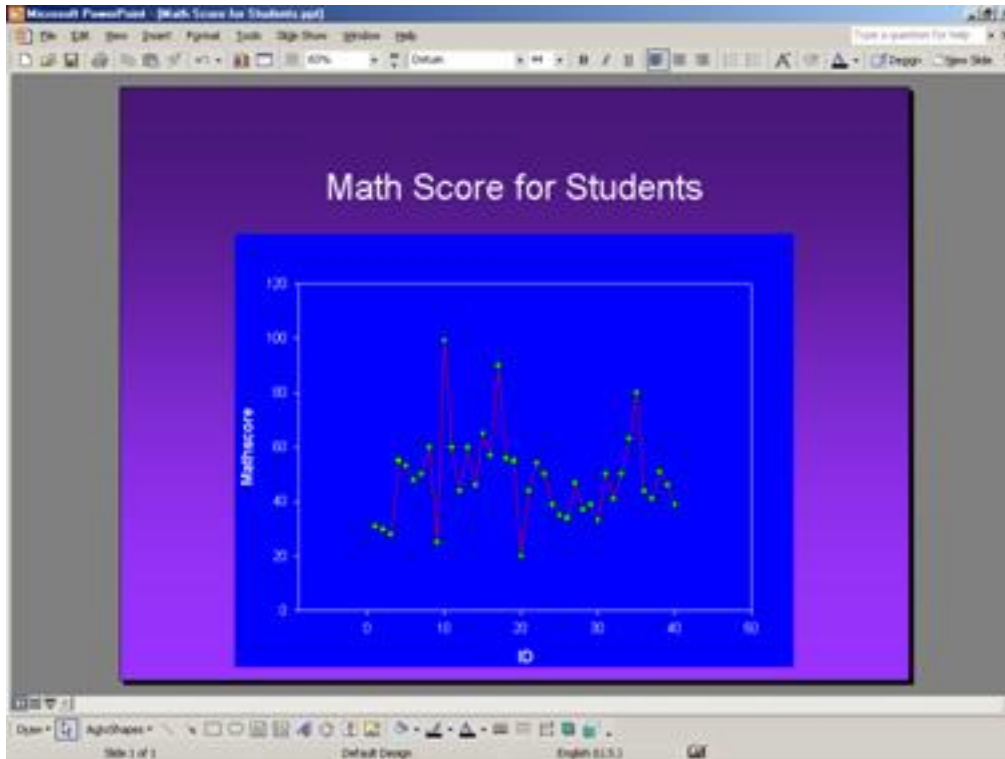2. The graph (*1) which you want to export from SigmaPlot looks like this:
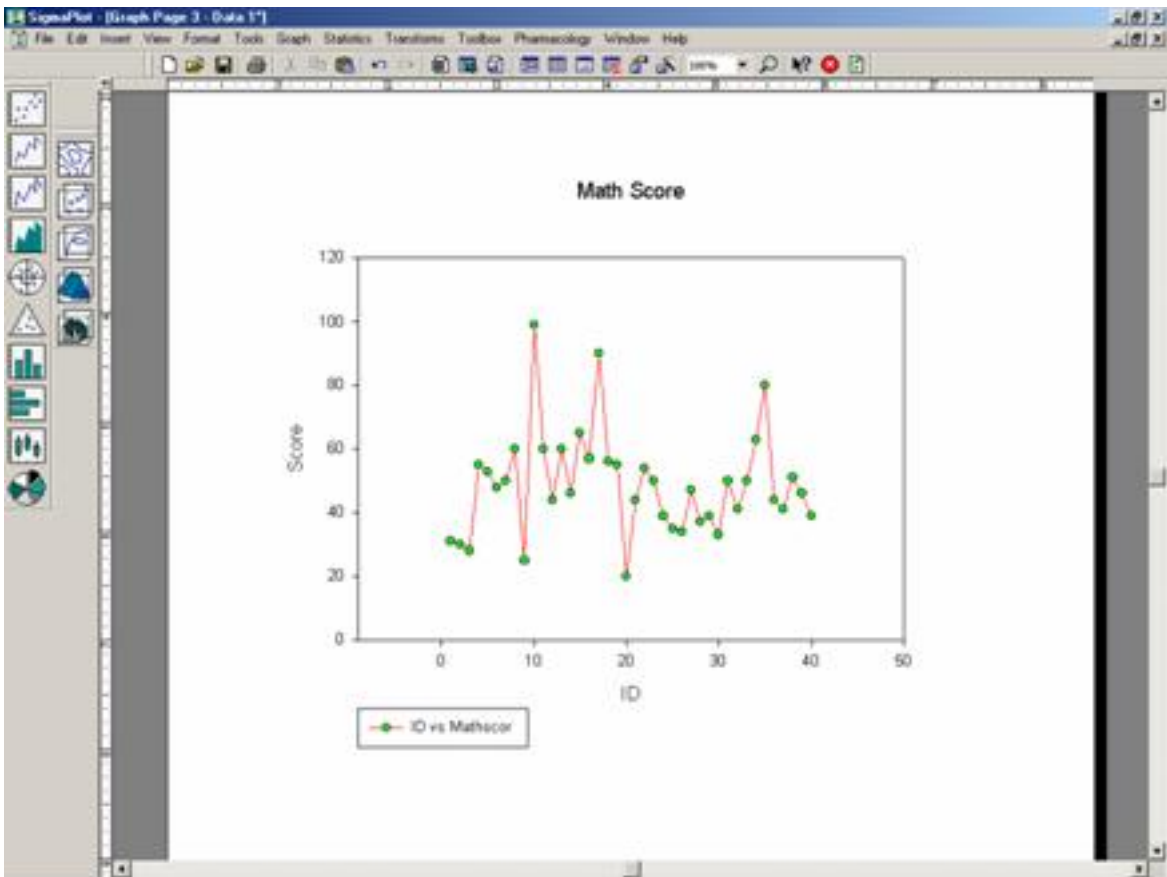
(*1) The graph above is from the previous section, Editing Graphs.

3. Point and click the graph, and drag and drop it on the PowerPoint

4. Within the PowerPoint slide, you can edit the graph just like other image files:


Getting Help and Further Reading

When you select **Help** on the top menu and then select **Contents and Index**, you will see that SigmaPlot uses the standard Windows help system. There are three tabs and only one may be selected at any one time. These are:

Contents: This opens a table of contents where you can browse various topics.

Index: This allows you to see a list of index entries. You can either type a subject or scroll through the list.

Search: This allows you to search a particular topic or the entire Help file for a particular word or phrase.
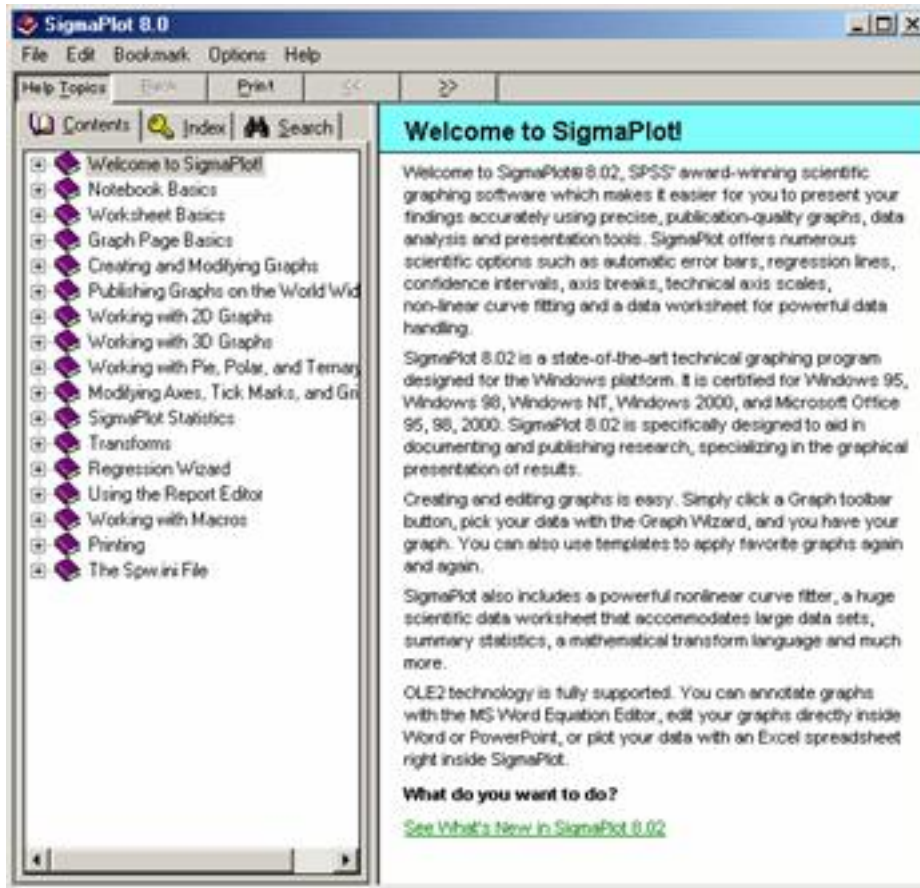
The material covered in this document illustrates some of the basic features of SigmaPlot for Windows. Examining additional features of SigmaPlot for Windows is beyond the scope of this document. For further help, refer to SigmaPlot for Windows documents. If you need assistance in using SigmaPlot for Windows contact the UITS Stat/Math Center.

The basic documents for SigmaPlot for Windows are:

- User's Guide
- Programming Guide

SigmaPlot PDF documents are also available online. Hardcopy documents may be purchased through any local bookstore, or directly ordered from Systat Software, Inc. Those who wish to contact Systat Software, Inc. directly for general information on SigmaPlot may call (800) 797-7401 or email sales@systat.com.