

KaleidaGraph Quick Start Guide

This document is a hands-on guide that walks you through the use of KaleidaGraph. You will probably want to print this guide and then start your exploration of the product. Once KaleidaGraph is installed, all of the files you will need can be found in the KaleidaGraph folder that was created during the installation process.

Please refer to the ReadMe file which provides installation instructions, details on getting help, and much more. If you have any questions or problems, please contact technical support.

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Getting Started

This guide contains four major examples to guide you through the operation of KaleidaGraph. We recommend that you try and complete all four at one sitting, however you can always come back and complete the tour at a later time.

These examples will show you how to do the following:

- Enter some data, change the column titles and data format, sort the data, and calculate simple statistics for the data.
- Create and modify a Scatter plot of the data from the first example. This example shows how to change the display of the variable, use a few plot tools, and add a curve fit and error bars.
- Create a Column plot from a saved data set. This example shows how to modify the axes, change the display of the axis labels, and add value labels above the columns.
- Display the plots from the preceding examples on the same page using the layout window.

Some optional examples are also included in this guide to show you how to perform common operations not covered in the main examples. The topics include editing the legend text and frame, using Formula Entry, performing a one way ANOVA, applying a user-defined curve fit, and modifying data in a saved plot. A section on generating similar plots is also included to give you hints on how to maintain a consistent look for the plots that you create.

For more examples of using KaleidaGraph, refer to the Tutorial file (**Help** menu).

At this point, you are ready to start learning KaleidaGraph.

Example 1 - Generating a Sample Data Set

This example takes you through the process of typing data into the data window, changing the column titles and data format, sorting the data, and calculating statistics on the raw data.

- Start KaleidaGraph by double-clicking the KaleidaGraph icon or choosing KaleidaGraph from the **Programs** portion of the **Start** menu (Windows).

When you launch KaleidaGraph there will be two windows displayed: an empty data window and a Formula Entry window. The data window is a spreadsheet used to enter and store data for plotting and analysis. By default, new data windows are created with 10 columns and 100 rows. Each data window can contain a maximum of 1000 columns and 1 million rows.


The first step is to type some data into the data window. By default, the cell at row 0, column 0 is the active cell.

- Type **4.3** into this cell.
- Press the **Enter** (Windows), **Return** (Macintosh), or **Down Arrow** key to move down to the next cell.
- Type the values **2.9, 4.8, 3.2, 3.9, 3.5,** and **2.3** into the first column. After each value is entered, press the **Enter, Return,** or **Down Arrow** key to move down a row.
- Click the cell in the first row of the second column (row 0, column 1).
- Use the same method to type the data values **8.0, 6.2, 9.0, 5.7, 8.8, 7.2,** and **4.9** into this column.

The next step will be to change the titles of the first two data columns.

- Double-click the column title of the first data column. The name of the current column (**A**) will be selected.
- Type **Time** for the new column title.
- Press **Tab** to edit the title of the second column.
- Type **Test 1** for the new column title.

The following steps change the display of the data so that each value only has one decimal place.

- Select the first two columns in the data window (**Time** and **Test 1**).
- Choose **Data > Column Formatting** or click  in the data window to display the Column Formatting palette. This palette can be used to change many of the attributes associated with the data window, such as font, color, font size, column width, and format of the data.
- In the **Number Type and Formatting** portion of the palette, choose **Fixed** from the **Format** pop-up menu.
- Choose **1** from the **Decimals** pop-up menu.
- Click **Apply** to update the selected columns.

Your data window should resemble the one shown in Figure 1.

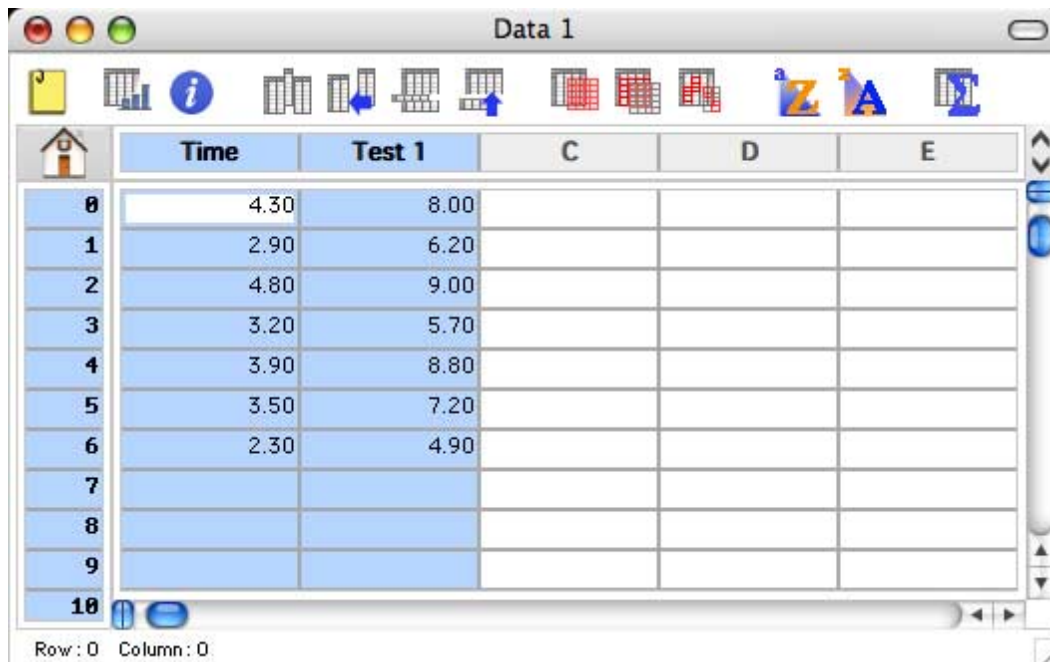




Figure 1

Now we will sort the data in the first column to get the values in ascending order (from low to high).

- If they are not already selected, select the first two columns in the data window (**Time** and **Test 1**).
- Choose **Functions** > **Ascending Sort** or click  in the data window to display the Sort dialog.
- Click **OK** to sort the data. The data in the second column will be arranged according to the rows in the first column.

The final step is to calculate a number of standard statistics on one of the data columns.

- Click the **Test 1** label in the data window to select the entire column.
- Choose **Functions** > **Statistics** or click  in the data window.

A dialog will be displayed showing the calculated values for each of 10 different statistics. This dialog provides a **Copy to Clipboard** button to export the results for use in a data, plot, or layout window.

- Click **OK**.

At this point, you can proceed to the next example to create a plot from this data.

Example 2 - Creating a Scatter Plot with Linear Curve Fit and Error Bars

This example uses the data from the preceding example to create a Scatter plot. This example shows how to change marker type and size, use the Identify and Data Selection tools, apply a Linear curve fit, display the curve fit equation, and add error bars.

Now, let's create a plot using the example data entered in the previous exercise.

- Choose **Gallery** > **Linear** > **Scatter**.

This will display the Variable Selection dialog. Notice that the name of the data file and its column titles are displayed in this dialog.

- Select **Time** as the X variable and **Test 1** as the Y variable by clicking the appropriate buttons.

Figure 2 shows what your Variable Selection dialog should look like at this point.

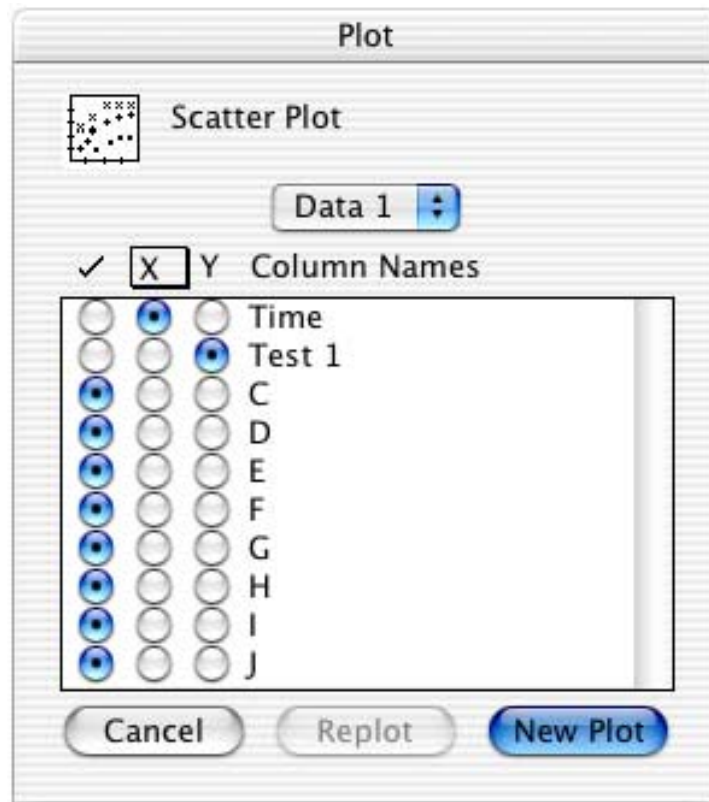


Figure 2

- Click **New Plot** to create a Scatter plot.

The X variable you selected is the independent variable and the Y variable is the dependent variable. By default, the X variable is plotted on the horizontal axis and the Y variable is plotted on the vertical axis.


The title of the plot is taken from the name of the data window. The X and Y axis titles are taken from the column titles of the variables being plotted. The Y variable title is also used in the legend.

Now that the graph has been created, it can be modified very easily. For example, let's change how the data is represented on the plot. You will use the Variable Settings dialog to change the marker type and size.

- Triple-click the marker displayed in the legend (or choose **Plot > Variable Settings**).
- Select a different marker from the **Marker** pop-up menu to represent the variable on the plot.

The first six markers in the left column are transparent; all of the others are opaque.

- Select **18** from the **Marker Size** pop-up menu.
- Click **OK** and the plot will be redrawn to reflect the changes that have been made.

Now we will use the Identify tool () from the toolbox to display the coordinates of the data.

- Select the Identify tool by either clicking it or pressing **I** on your keyboard.
- Once the tool is selected, click one of the data points. The X and Y coordinates are displayed in the upper-left corner of the plot window.

It is also possible to leave the coordinates directly on the plot. To do this:

- Press **Alt** (Windows) or **Option** (Macintosh) as you release the mouse button. This will place a label containing the coordinates to the right of the point.

You can quickly and easily fit a curve to a set of data points. To add a curve fit to the plot:

- Choose **Curve Fit** > **Linear**. This will display a dialog to select which variables to fit with the Least Squares Error method.
- Select a variable to be fit (in this case **Test 1**) by clicking its check box.
- Click **OK**. The curve fit is calculated and the curve fit line is drawn on the plot. By default, the curve fit results will also be displayed on the plot. If the equation is not displayed, turn on **Display Equation** in the **Plot** menu.

The position of the equation can be changed using the Selection Arrow.

- Click the Selection Arrow on the toolbox.
- Drag the equation to a new position.
- When the move is complete, click anywhere else in the window and the object handles will disappear.
- You can use the same technique to move the legend.

At this point, your plot should resemble Figure 3.

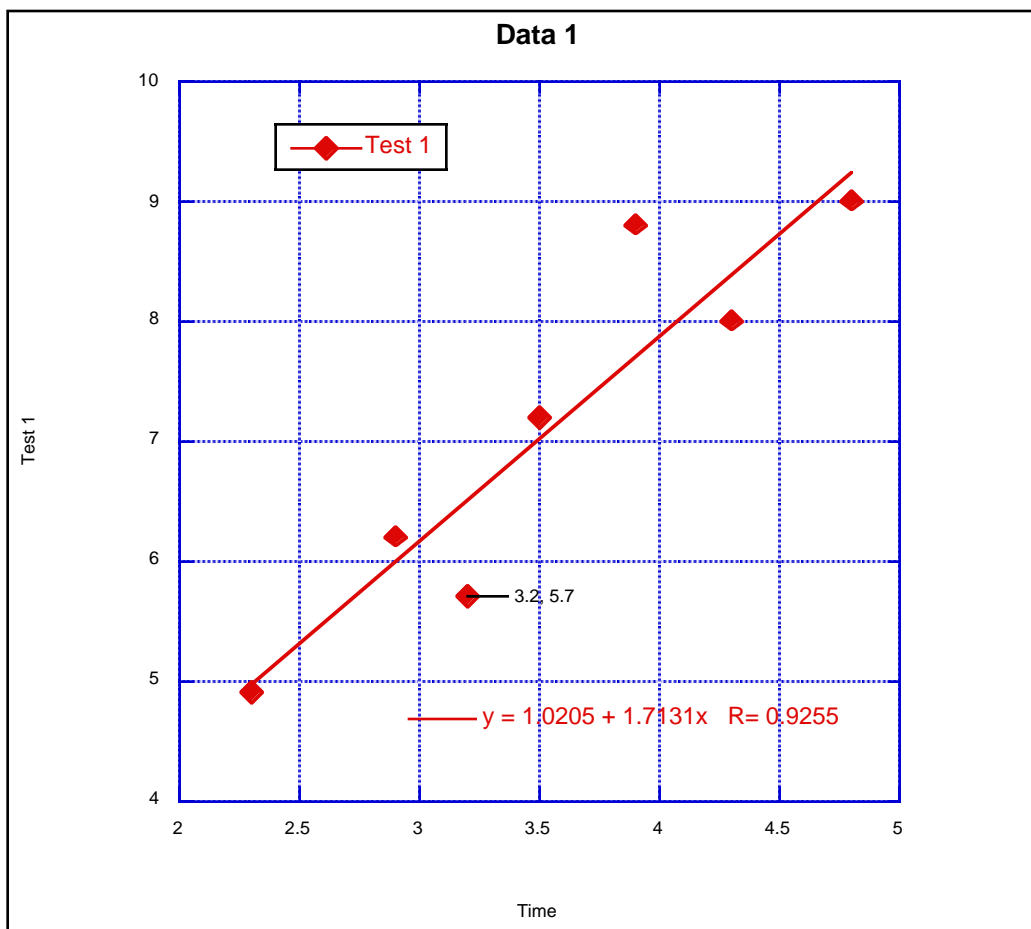



Figure 3

Once a curve fit is applied, you can copy the values of the curve fit line to the data window. These values are appended after the existing data in your data window. The first column will be a series of X values. The number of X values will be equal to the number of curve fit points specified in the Curve Fit Options dialog (**Curve Fit** menu). The second column will contain the values from the curve fit at each of these locations.

- Reselect **Linear** from the **Curve Fit** menu. A Curve Fit Selections dialog appears with a drop-down arrow under **View**.

- Click the drop-down arrow and choose **Copy Curve Fit to Data Window** from the pop-up menu.
- Click **OK** to return to the plot window.

Now we will use the Data Selection tool () from the toolbox to graphically remove a point from the plot.

- Select the Data Selection tool by either clicking it or pressing **S** on your keyboard.

The Data Selection tool operates by enclosing a region of the plot in a polygon. Any data points outside the polygon are temporarily removed from the plot. By pressing **Alt** (Windows) or **Option** (Macintosh) as you make the polygon, you can eliminate the data inside of the polygon.

- Once the tool is selected, press **Alt** (Windows) or **Option** (Macintosh) and click the mouse to form line segments around the data point in the lower-left corner of the plot window. Once the polygon is complete (by either clicking the starting point or double-clicking), the point is removed and the curve fit is recalculated.
- Double-click the Data Selection tool to return the plot to its original state.

The last modification to the plot will be the addition of error bars. Error bars illustrate the amount of error for the plotted data.

- Choose **Plot > Error Bars** to display the Error Bar Variables dialog.
- Click the check box in the **Y Err** column to add vertical error bars. A dialog will be displayed so you can choose the type of error to be used.
- From the pop-up menu, choose **Standard Error** for the error type.

Both of the pop-up menus will have Standard Error selected because the **Link Error Bars** check box is selected. Otherwise, it would be possible to have the error bar display one type of error for the positive portion of the bar and a different error (or no error at all) for the negative portion.

Your Error Bar Settings dialog should look like the one in Figure 4.

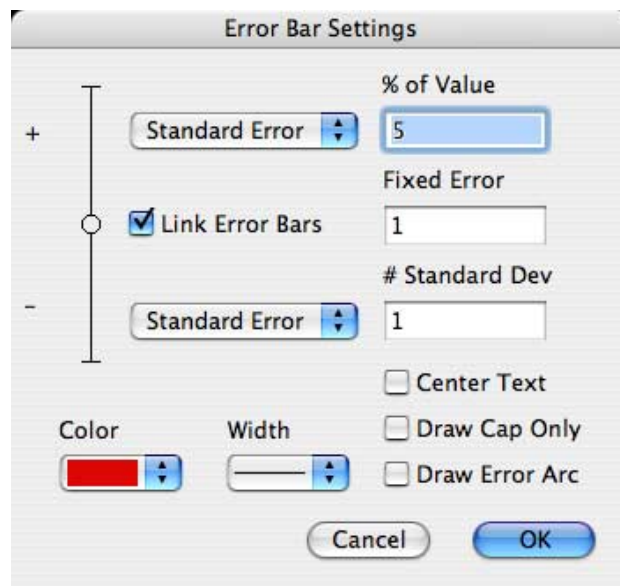


Figure 4

- Click **OK** to return to the Error Bar Variables dialog.
- Click **Plot** to add error bars to the plot. The error bars represent the standard error of the entire data column.

The finished plot is shown in Figure 5.

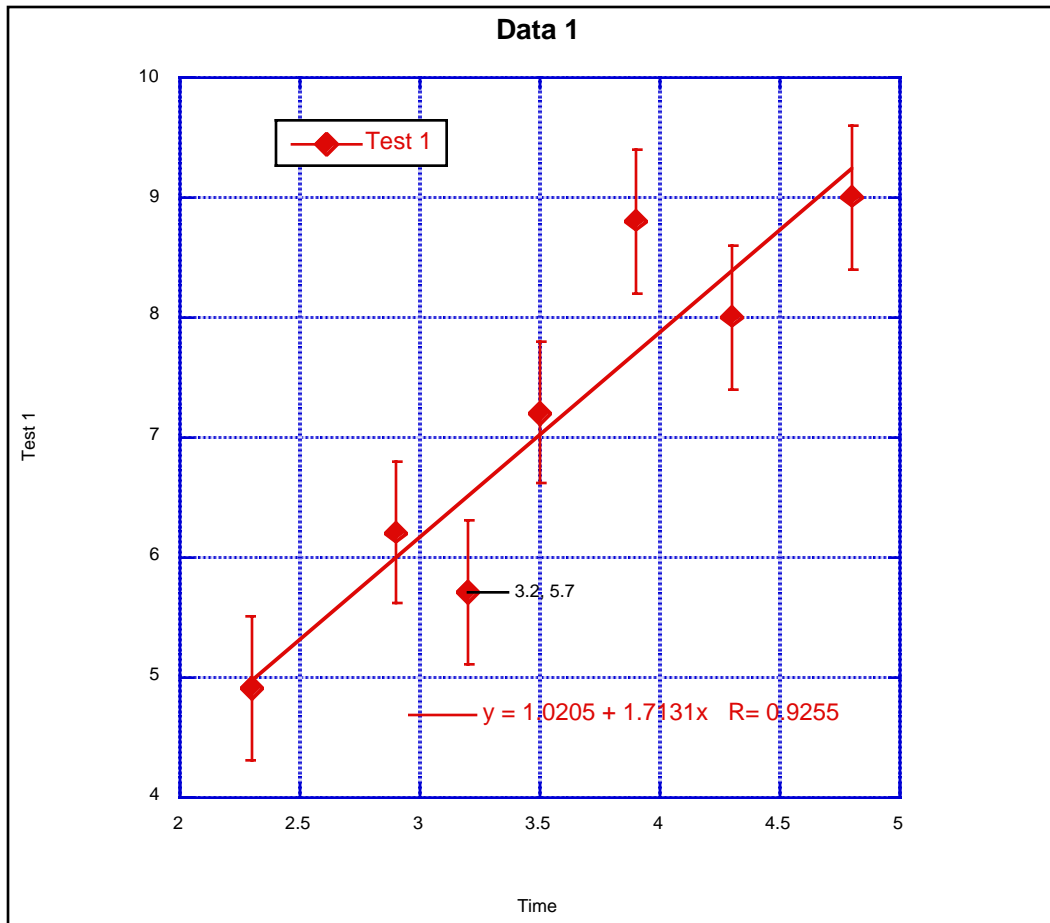


Figure 5

You have just created a customized plot. You can continue on to the next example which takes you through the process of creating and customizing a Column plot.

Example 3 - Creating a Column Plot with Value Labels

This example uses a Column plot to show how to adjust major and minor ticks, axis labels, plot color, fill patterns, column spacing, label rotation, and display values above the columns.

We will begin this example by opening a saved data set.

- Choose **File > Open**.
- Locate and open the **Data** folder, which is located in the **Examples** folder.
- Double-click the **Housing Starts** file. This will open the file in a new data window.

Now, let's create a plot using this data.

- Choose **Gallery > Bar > Column**. The Variable Selection dialog is displayed.
- Select **Month** as the X variable and **1966(K)** as the Y variable by clicking the appropriate buttons.
- Click **New Plot** to create a Column plot.

The first set of changes will be made in the Axis Options dialog. This dialog contains the majority of the settings for the axes, tick marks, grid lines, and axis labels.

- Triple-click the X axis (or choose **Plot > Axis Options**). This will display the dialog in Figure 6.

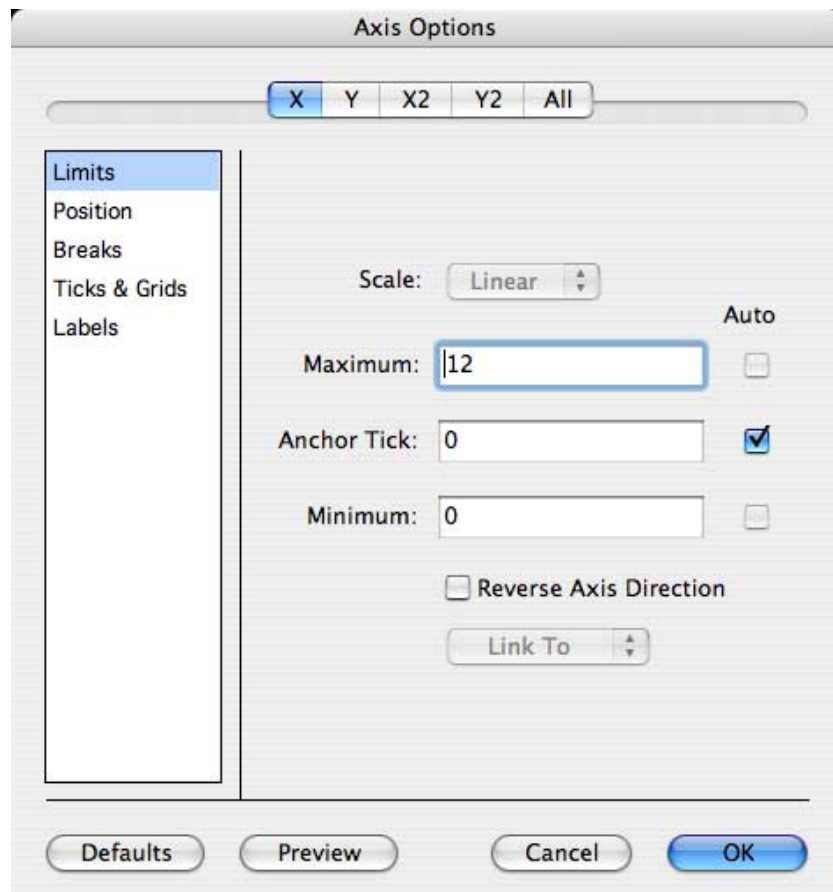


Figure 6

The first change will be to remove the tick marks and grid lines along the X axis.

- Click **Ticks & Grids**. The dialog will change to show the options that can be selected for the major and minor tick marks and grid lines.
- In the **Major Interval** portion of the dialog, choose **None** from the **Display Tick** and **Display Grid** pop-up menus.

The next change also involves the tick marks, but this time on the Y axis.

- Click the **Y** tab at the top of the dialog.
- Choose **Out** from both of the **Display Tick** pop-up menus.

The next step is to change the maximum Y axis limit from 140 to 160.

- Click **Limits**. The dialog will change to show the options that can be selected for the limits.
- Change the **Maximum** value from 140 to 160.

The last step will be to add some color to the interior of the plot. By default, plots are created without interior and background colors. To select an interior color:

- Click the **All** tab at the top of the dialog.
- If it is not already selected, click **Colors** and then choose one of the lighter colors from the **Interior** pop-up menu.
- Click **OK** to have the plot updated.

Now you can change the fill pattern for the columns using the Variable Settings dialog.

- Triple-click the small square in the legend which is filled with the same pattern as the columns (or choose **Plot > Variable Settings**).
- Select a different fill pattern from the **Fill Pattern** pop-up menu.
- Click **OK**.

The next step will be to increase the amount of space between the columns.

- Choose **Plot > Plot Options**.
- If it is not already selected, click **Bar** to display the options available for Bar and Column plots.
- Change the **Column Offset** percentage from 20 to 40%.
- Click **OK** to update the plot.

At this point, your plot should resemble the one shown in Figure 7.

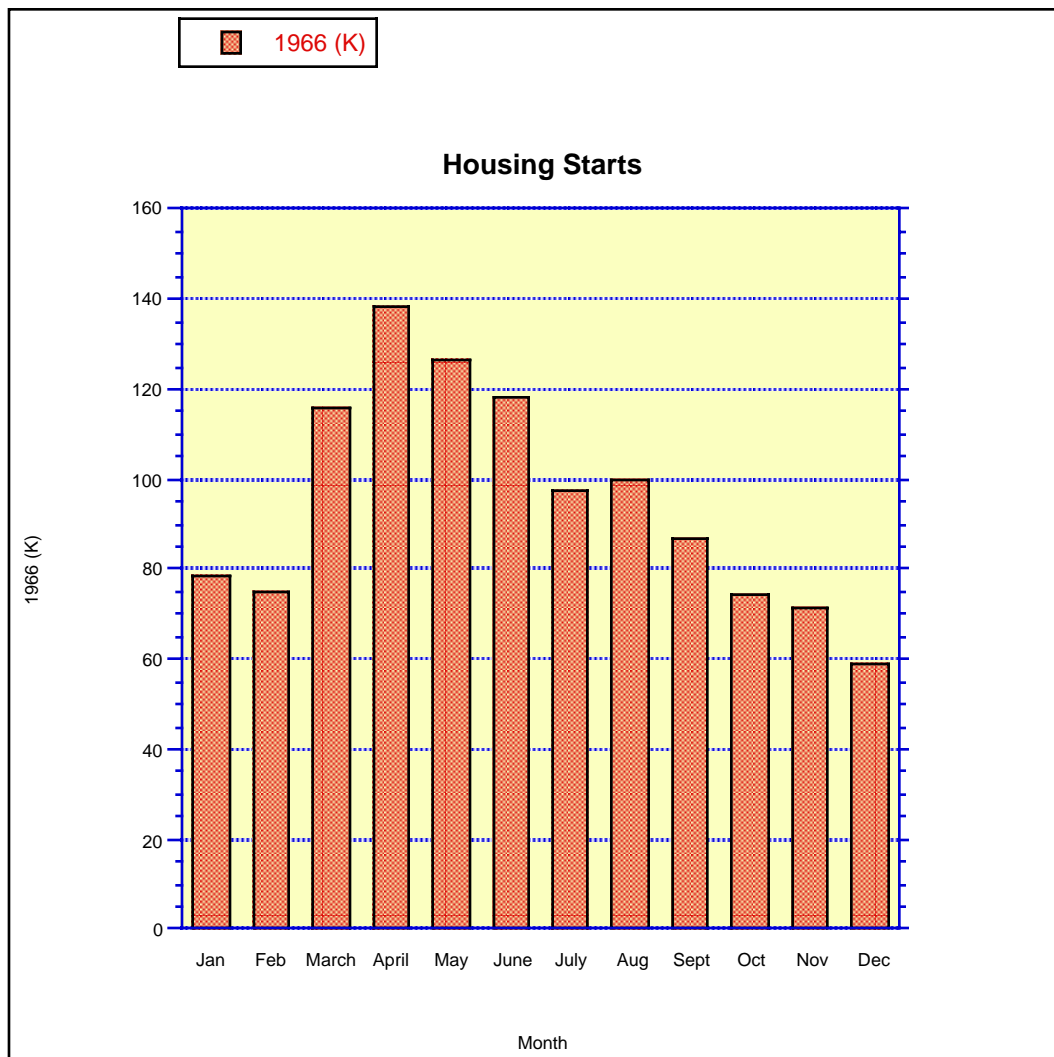


Figure 7

The following steps will show how to remove the X axis title, resize the Y axis title, and rotate the X axis labels.

- Click the X axis title, **Month**, and press **Backspace** (Windows) or **Delete** (Macintosh).
- Click the Y axis title, **1966 (K)**. Drag any one of the four object handles to increase the font size of the label. It is also possible to change the font size by double-clicking the text label.
- Double-click one of the X axis labels. Notice that this dialog has its own set of menus.

- Choose **Format > 90° Rotation**.
- Also choose **Format > Right Justify** so that the rotated labels will line up evenly.
- Click **OK** to get back to the plot window.
- Drag the X axis labels closer to the axis. You can also use the arrow keys to move selected objects one pixel at a time in the specified direction (10 pixels if you press **Shift** while using the arrow keys).

The last step is to display the values of each column. To do this:

- Turn on **Add Values** in the **Plot** menu.

The values are placed at the top of each column. The values can be moved as a group by dragging them to a new location.

The Column plot is now complete.

Example 4 - Laying out Plots for Printing

This example shows how to use the layout window to place the plots created in the previous examples on a single page.


Note: The following steps assume the two plots from the previous examples are still open. If you do not have them any longer, you can open any two plots from the **Plots** folder in the **Examples** folder.

- Choose **Windows > Show Layout > KG Layout**. If no layout has been created previously, an empty layout window will be displayed.
- Use the **Select Plot** command (**Layout** menu) to select the two plots that were created in the previous examples. At this point, do not worry about their overall placement.
- Choose **Layout > Arrange Layout**. The Arrange Layout dialog allows you to enter the number of rows and columns to divide the layout window into equal sections.
- The default settings (two rows and one column) are sufficient for this example, so click **OK**.

Notice that the layout window was divided into two equal sections and the plots were automatically resized and placed into these sections.

It is possible to display more than just plots in the layout window. The plot tools are available, enabling you to add text and other objects to the layout. Various graphic images can be imported into the layout window. Also, a background pattern and frame can be added to the layout using the **Set Background** command (**Layout** menu).

The following steps explain how to add a text label to the layout window:

- Select the Text tool () from the toolbox. You can select this tool by either clicking it or pressing **T** on your keyboard.
- Click anywhere in the layout window. The Edit String dialog will appear.
- Enter some text into this dialog. KaleidaGraph supports fully-stylized text, so feel free to highlight various portions of the text string you have entered and make changes to the font, font size, style, and color. Any changes you make only affect the selected portion of the text string.
- Once you are finished making changes, click **OK** to add the text label to the layout window. You can move the label to a new position using either the Text tool or the Selection Arrow.
- You can now print the layout by choosing **File > Print Layout**.
- Close the layout window by choosing **File > Close**.

Where to Go from Here

We have just taken you on a pretty informative tour on the use of KaleidaGraph. At this point, you can begin to experiment on your own. Feel free to view some of the plots in the Examples folder for ideas about how your plots can look. You may also continue with some of the additional examples in either the following section or in the Tutorial file (**Help** menu). These examples cover some more specific topics than those you have just completed. If you need more information on any of the commands you have used up to now, you can get more complete details in the Help file.

Additional Examples

This section contains some optional examples to show you some of the finer points of KaleidaGraph. Unlike the major examples you completed earlier, you do not have to follow the additional examples in any order. You can pick out those topics which are relevant to the way you will be using KaleidaGraph to get a greater feel for the program. These examples will show you how to do the following:

- Edit the legend frame and text.
- Use the Formula Entry window to perform calculations in the data window.
- Perform a one way ANOVA on a sample data set.
- Apply a user-defined curve fit, display the resulting equation, and change the display of the curve fit line.
- Open a saved plot, display the original data, and, after making changes to the data, automatically update the plot and curve fit.

A section on generating similar plots is also included after this section to give you hints on how to maintain a consistent look for the plots that you create.

Editing the Legend

This example shows how to edit the legend frame and text.

The attributes of the legend frame are controlled by the bottom three icons on the toolbox. Most of the changes to the legend frame involve the last icon in the toolbox, which is divided into two sections: a Line Style icon on the left and a Line Width icon on the right. The steps below will use these two sections of the icon to make various changes.

- Open the **Sample Plot** file which is located in the **Plots** folder in the **Examples** folder.
- Click the legend to select it.
- From the toolbox, click the Line Width icon (the up and down arrows) and choose **Hairline** from the pop-up menu. Notice that the legend frame changes from a shadow box to a hairline width line.
- Now click the Line Style icon (the line to the left of the up and down arrows) and select one of the dashed lines from the pop-up menu. Notice that the line surrounding the legend now contains the dashed pattern you selected.
- Finally, choose **None** from the Line Style pop-up menu. This removes the legend frame completely.

Now we can edit the text inside the legend.

- Select the Text tool (**T**) from the toolbox. You can select this tool by either clicking it or pressing **T** on your keyboard.
- Double-click any of the three labels inside the legend. A dialog will be displayed that will let you modify the information.
- Delete the text in this dialog and type any information you like. Feel free to change the font, size, and style as well.
- Click **OK** to return to the plot and see the change.

The changes you made only affect this one label. If you use the Selection Arrow instead of the Text tool, you can change the attributes of all legend items at once. However, you cannot edit the text with the Selection Arrow.

Using Formula Entry

This example shows how to use the Formula Entry window, shown in Figure 8, to operate on the data window. Details on executing a multi-line formula are also included.

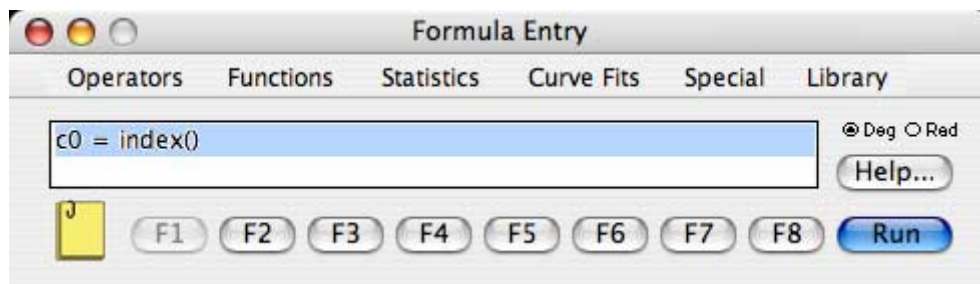



Figure 8

The Formula Entry window is a very powerful tool for data analysis. Use Formula Entry to enter equations (functions) that generate and manipulate data in the frontmost data window. The results of a formula can be placed in a data column, a single cell, or a memory location.

Memory locations and column numbers can be used in formulas. Memory locations range from 0 to 99 and need to be preceded by an **m** when used in a formula (m15, m35, and so on).

Column numbers range from 0 to 999 and need to be preceded by a **c** when used in a formula (c10, c55, and so on). To display the column numbers, click the Expand/Collapse button  in the data window. Please note that when a selection is made in the data window, the first column in the selection becomes column 0.

The following are a few examples of basic formulas along with a description of each:

- $c2=c0+c1$; Adds the first two columns together and stores the results in column 2
- $c1=c0/1000$; Divides column 0 by 1000 and stores the results in column 1
- $c2=\cos(c0)$; Calculates the cosine of column 0 and stores the results in column 2

Let's get started by running a few formulas and seeing their effects on the data window:

- Choose **File > New** to display an empty data window.

To execute a formula from the Formula Entry window, a data window must be open. Otherwise, the **Run** button is unavailable.

- Choose **Windows > Formula Entry**.

By default the F1 function button will be selected. The F1-F8 buttons can be used to store common formulas, however we recommend that you leave F1 for general use and store your formulas in F2-F8.

Note: In the steps that follow, you can press **Enter** (Windows) or **Return** (Macintosh) instead of clicking **Run**.

- Click **F2**, type **c0=index() + 1**, and click **Run**.

This creates a series from 1 to 100 in column 0.

- Click **F3**, type **c1=log(c0)**, and click **Run**.

This function calculates the logarithm of each value in column 0 and stores the results in column 1.


- Click **F4**, type **c2=c1^2**, and click **Run**.

This formula squares each value in column 1 and stores the results in column 2.

- Click **F5**, type **cell(0,3)=csum(c2)**, and click **Run**.

This formula calculates the total sum of the values in column 2 and stores the result in the cell at row 0, column 3.

It is not necessary to enter and execute each formula individually. KaleidaGraph has a method to enter multiple formulas and execute them all at once.

To the left of the F1 button is a Posted Note button (). Clicking this button displays a text editor. You can enter multiple formulas into the editor and execute them all at once by clicking **Run**. The formulas must be on separate lines and each must be terminated with a semicolon.

Let's try using the same formulas from before, but this time executing them using the Posted Note window:

- Choose **File > New** to display an empty data window.
- Choose **Windows > Formula Entry**.
- Click the Posted Note button in the Formula Entry window to display a text editor. This button is located to the left of the F1 button.
- Type the following formulas into the Posted Note window. Note that each formula ends with a semicolon and appears on a separate line.

```
c0=index() + 1;  
c1=log(c0);  
c2=c1^2;  
cell(0,3)=csum(c2);
```

- After the formulas are entered, choose **File > Close** to return to the Formula Entry window. A message will be displayed in the Formula Entry window telling you to click **Run** to execute the Formula Posted Note.
- Click **Run** to execute all of the formulas at once.

As you can see, this is a very convenient method to execute multiple formulas at once. Using this method you can save the formulas as a text file that can be opened at a later time within the Posted Note dialog.

Performing a One Way ANOVA

This example walks you through the process of performing a one way ANOVA on one of the example data files. Use this test when you want to see if the means of three or more different groups are affected by a single factor. This test is the same as the unpaired t-test, except that more than two groups can be compared.

As part of the results, KaleidaGraph calculates F and P values. For more information on the results of a one way ANOVA, refer to the online Help.

- **F value** - This value is the ratio of the groups' mean square over the error mean square. If this value is close to 1.0, you can conclude that there are no significant differences between the groups. If this value is large, you can conclude that one or more of the samples was drawn from a different population. To determine which groups are different, use one of the post hoc tests.
- **P value** - This value determines if there is a statistically significant difference between the groups. If this value is below a certain level (usually 0.05), the conclusion is that there is a difference between the groups.

We will begin this example by opening a saved data set.

- Choose **File > Open**.
- Locate and open the **Data** folder, which is located in the **Examples** folder.
- Double-click the **ANOVA data** file.

You can now perform a one way ANOVA on this data set:

- Choose **Functions > ANOVA** to display the ANOVA dialog.
- Assign **Sample 1** through **Sample 5** to the **Dependent(s)** list by selecting these variables and clicking the **Add** button. You can assign each one individually or you can select all five and assign them at once.
- Click **Calculate**. Figure 9 shows the results of the one way ANOVA. This test produces a P value of 0.04325, indicating that there is a significant difference between the groups.

ANOVA

Select ANOVA Variables:

- Sample 1
- Sample 2
- Sample 3
- Sample 4
- Sample 5
- Exercise
- Pulse 1
- Pulse 2
- Pulse 3

Dependent(s):

- Sample 1
- Sample 2
- Sample 3
- Sample 4
- Sample 5

Repeating Factor Name:

Factor(s):

Post Hoc Test: Alpha:

One Way ANOVA
Data Table: ANOVA data
Factor A: 5 Groups
Sample 1, Sample 2, Sample 3, Sample 4, Sample 5

Analysis of Variance Results

Source	DF	SS	MS	F	P
Total	39	85.00244	2.1795497		
A	4	20.343166	5.0857916	2.7529339	0.04325
Error	35	64.659273	1.8474078		

Copy Results to Clipboard Print Results OK Calculate

Figure 9

To determine which groups are different and the size of the difference, you can use one of the post hoc tests. For more information on the post hoc tests, refer to the online Help.

- Choose **Tukey HSD** from the **Post Hoc Test** pop-up menu.
- Click **Calculate**. The results of the post hoc test appear below the ANOVA results. By comparing the P values that are calculated, it appears that Sample 4 differs significantly from the other samples.
- The results can be copied to the Clipboard or printed by pressing the appropriate button in this dialog.
- Click **OK** to return to the data window.

Applying a General (user-defined) Curve Fit

This example takes you through the process of opening a saved plot and applying a user-defined curve fit. KaleidaGraph's General curve fit is based on the Levenberg-Marquardt algorithm. You can solve up to nine unknown parameters during the fitting process.

We will start by opening a saved plot.

- Choose **File > Open**.
- Locate and open the **Plots** folder, which is located in the **Examples** folder.
- Double-click the **Inhibition Plot** file.

Now we are ready to apply a General curve fit. The following steps will take you through the process of applying a Sigmoidal curve fit to the data. The equation is of the form $y = a + (b - a) / (1 + x / c)$.

- Choose **Curve Fit > General > fit1**. This will display the Curve Fit Selections dialog.
- Click **Define** to display the General Curve Fit Definition dialog shown in Figure 10.

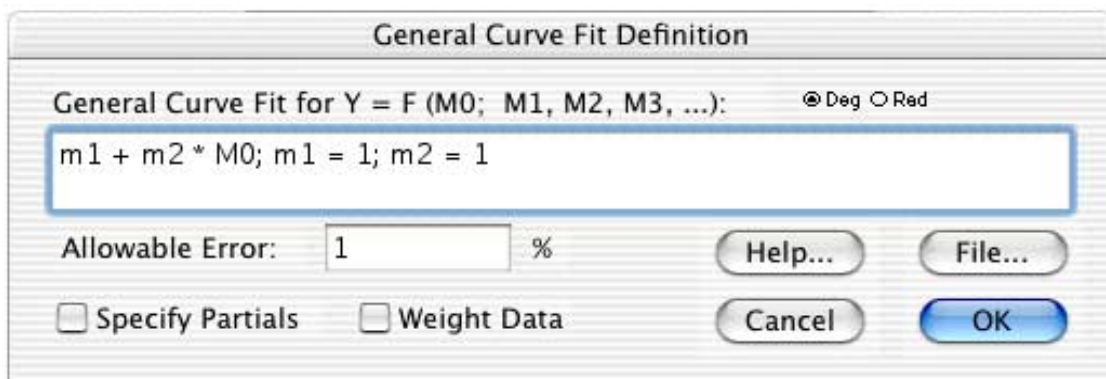


Figure 10

- Type $m1+(m2-m1)/(1+m0/m3);m1=1;m2=100;m3=1$ into the field provided and click **OK**. The information that appears after the curve fit definition represents the initial guesses for the unknown parameters in the equation.
- Click the check box in front of **% Inhibition**. This indicates to KaleidaGraph that you want to apply a curve fit to this variable.
- Click **OK** and the curve fit will be calculated and displayed on the plot.
- A table should appear containing the results of the fit. If it is not displayed automatically, turn on **Display Equation** in the **Plot** menu. The table lists the values of the unknown parameters along with the standard error of these values. It should be read as the parameter value +/- the standard error. The Chi Square and R values are also displayed as part of the curve fit results.
- Feel free to move the table to a new location using the Selection Arrow. If you would prefer to hide the table, turn off **Display Equation** in the **Plot** menu.

The final step will be to change the line style and width of the curve fit line.

- Choose **Plot > Variable Settings**.
- Click the **Curve Fit Settings** tab. This will allow you to change the appearance of the curve fit line.
- Using the appropriate pop-up menus, select a different line style and line width for the curve fit. Click **OK** to apply the changes. Depending on the line width selected, you may not notice a difference on the screen. However, you will notice a difference when the plot is printed.

Modifying Data in a Saved Plot

This example shows how to modify a data point in a saved plot and have the plot and any curve fits automatically updated.


To get started, we need to open a saved plot and extract the data. To do this:

- Choose **File > Open** and open the **Sample Plot** file (located in the **Plots** folder, within the **Examples** folder).
- With the plot frontmost, choose **Plot > Extract Data**. The original data used to create the plot will be displayed.

The title of the window begins with the same name as the original data file. Additionally, a time and date stamp is appended to the name, identifying when the data was archived in the plot. The data is still linked to the plot window, so nothing with regard to the curve fit, etc. has changed.

Now we can make changes to the data and have the plot updated.

- Turn on **Auto Link** in the **Plot** menu. When this command is active, you can make changes to the data and have the plot automatically updated after each individual change.
- Delete the first value in the second column (78.5) and type **100** into this cell.
- Click another cell to activate the Auto Link feature. The plot and curve fit will automatically be updated to reflect the modified data value.

If you need to add or edit multiple data points, it may be more efficient to use the **Update Plot** command (**Plot** menu) because Auto Link causes the plot to update after each change. In this case, turn off **Auto Link**, make any changes to the data, and either choose **Update Plot** or click  in the data window. The plot will be updated to reflect all of the changes at once.

Generating Similar Plots

If you routinely create the same types of plots, it is helpful to set up some defaults or templates so that most of the work can be done automatically. KaleidaGraph provides several features that can be used to generate similar plots.

This section provides an overview on the use of Style files, Template plots, and Plot Scripts to achieve a consistent look for your plots. The following will give you a general idea of when to use each. For more detailed information, refer to the Generating Similar Plots topic within the Appendixes of the Help file.

- Style files - This feature is useful for setting program defaults like font information, plot characteristics, colors, and so on. This information is used any time a new plot is created. It is possible to export separate Style files so that you can load different settings as needed.
- Template plots - This feature is useful when you have an existing plot and would like to replace the data, keeping the look of the plot intact. If the original plot contains curve fits or error bars, the resulting plot will also have these applied. The plot and axis titles will remain the same; however, the legend will reflect the name of the new variable.
- Plot Scripts - This feature is useful when you need to generate several identical plots at one time from different data sets. If the script is pointed at a plot that contains curve fits or error bars, each resulting plot will also have these applied. Other features include the option to automatically save or print each plot and the ability to set the titles and legend information for each plot.

Contact Information

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