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KaleidaGraph Workshop –

(from KaleidaGraph manual®- more about KaleidaGraph can be found in the manual)

A d o o on of d o o yo o
fo o n

• Create a new data set, change the column titles and format, sort the data, and calculate simple statistics
for the data.
• Create a Scatter plot, 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, 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 to show you how to perform common operations not covered in the
main examples. The topics include editing the legen

1. Double-click the column title of column 0 (or choose > **Co n o**).
2. Type ` into the field below the listing of column titles.
3. Click the name of the second column (**B**).
4. Type into the field below the listing of column titles.

This dialog can also be used to change the format of the data columns. The following steps change the display
of the data so that each value only has one decimal place.

1. Click ` , press `f, and click . Both of these entries should be highlighted.
2. From the **o**

change the marker type, size, and color, use the Identify and Data Selection tools, apply a Linear curve fit,
display the curve fit equation, and add error bars.

n c o

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

1. Choose **y** > **L n** > **c** . The Variable Selection dialog is displayed. Notice that the
name of the data file and its column titles are displayed in this dialog.
2. Select ` as the X variable and as the Y variable by clicking the appropriate buttons.

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

Figure 2-2 Variable Selection dialog

3. Click **N** **o** to create a Scatter plot.

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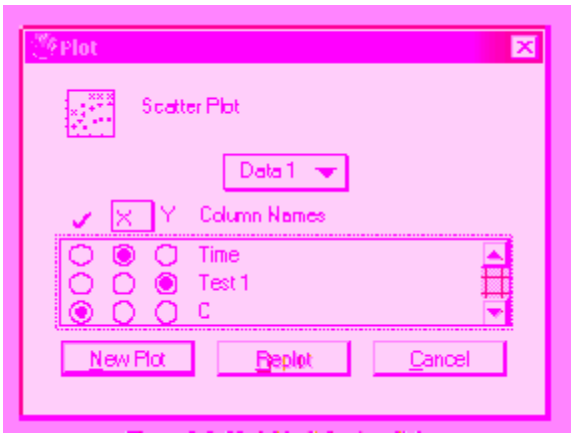
The X variable you selected is the independent variable and the Y variable is the dependent variable. By
default, the X variable is plotted on the horizontal axis and the Y variable is plotted on the vertical axis.

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.

n n o y

Now that the graph has been created, it can be modified very easily. For example, let's change how the data

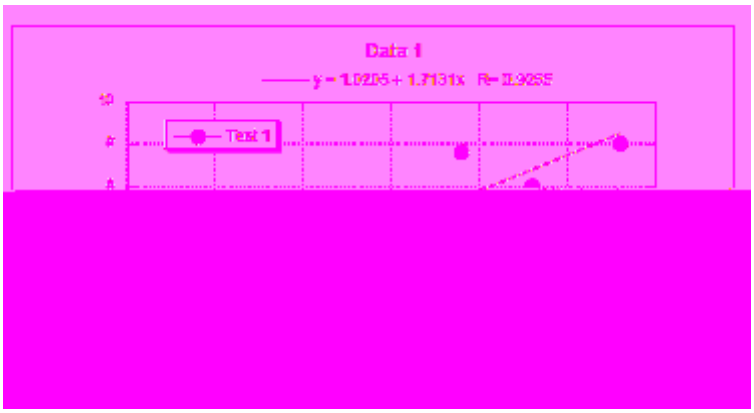


s n □□ n y oo

Now we will use the Identify tool ( ) on the toolbox to display the coordinates of the data.
1. Select the Identify tool by either clicking it or pressing on your keyboard.
2. 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 **A** (Windows) or **on** (Macintosh) as you release the mouse button. This places a label
containing the coordinates to the right of the point.

A y n L n □

You can quickly and easily fit a curve to a set of data points. To add a curve fit to the plot:
1. Choose **C** > **L n** . This displays a dialog to select which variables to fit with the Least
Squares Error method.
2. Select a variable to be fit (in this case) by clicking its check box.
3. Click . The curve fit is calculated and the curve fit line is drawn on the plot. By default, the curve



o n s □s o □

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
(**o** menu). The second column will contain the values from the curve fit at each of these locations.

1. Reselect **L n** from the **C** menu. A Curve Fit Selections dialog appears with a drop-down
arrow under .
2. Click the drop-down arrow and choose **Co y C o ndo** from the pop-up menu.
3. Click to return to the plot window.

s n c on oo

Now we will use the Data Selection tool ( ) to graphically remove a point from the plot. The Data Selection
tool operates by enclosing a region of the plot in a polygon. Any data points outside the polygon are removed
from the plot. By pressing **A** (Windows) or **on** (Macintosh) as you make the polygon, the data inside
the polygon can be eliminated.

1. Select the Data Selection tool by either clicking it or pressing on your keyboard.
2. Once the tool is selected, press **A** (Windows) or **on** (Macintosh) and create a polygon around
the data point in the lower-left corner of the plot window. Once the polygon is complete, the point is
removed and the curve fit is recalculated.
3. Double-click the Data Selection tool to5.1009863403317(d)-0.3010977361(o)-Ba12.B9B30(s)-08no

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

1. Choose **o** > **o B** to display the Error Bar Variables dialog.
2. Click the check box in the **Y** column to add vertical error bars. The Error Bar Settings dialog is
displayed to choose the type of error.
3. From the pop-up menu, choose **nd d o** for the error type. The dialog should look like the
one in Figure 2-4.

Figure 2-4 Error Bar Settings dialog

4. Click to return to the Error Bar Selection dialog.
5. Click **o** to add the error bars to the plot. The error bars represent the standard error of the entire
data column.

The finished plot is shown in Figure 2-5.

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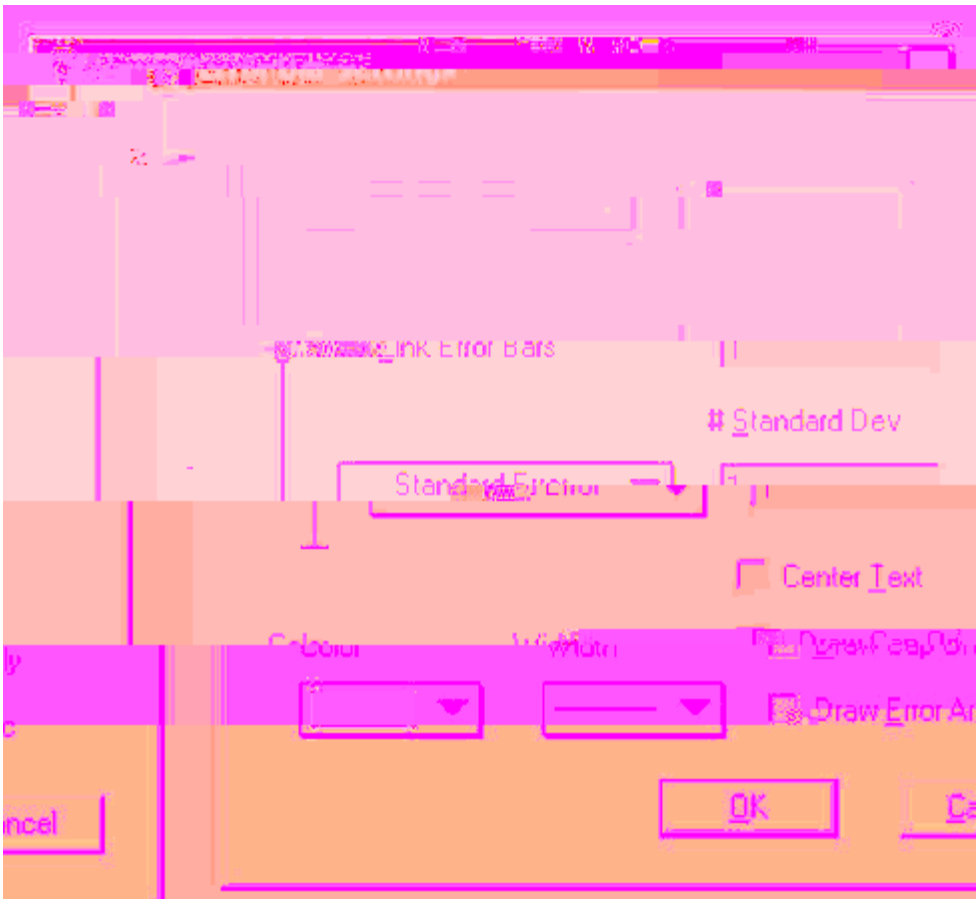
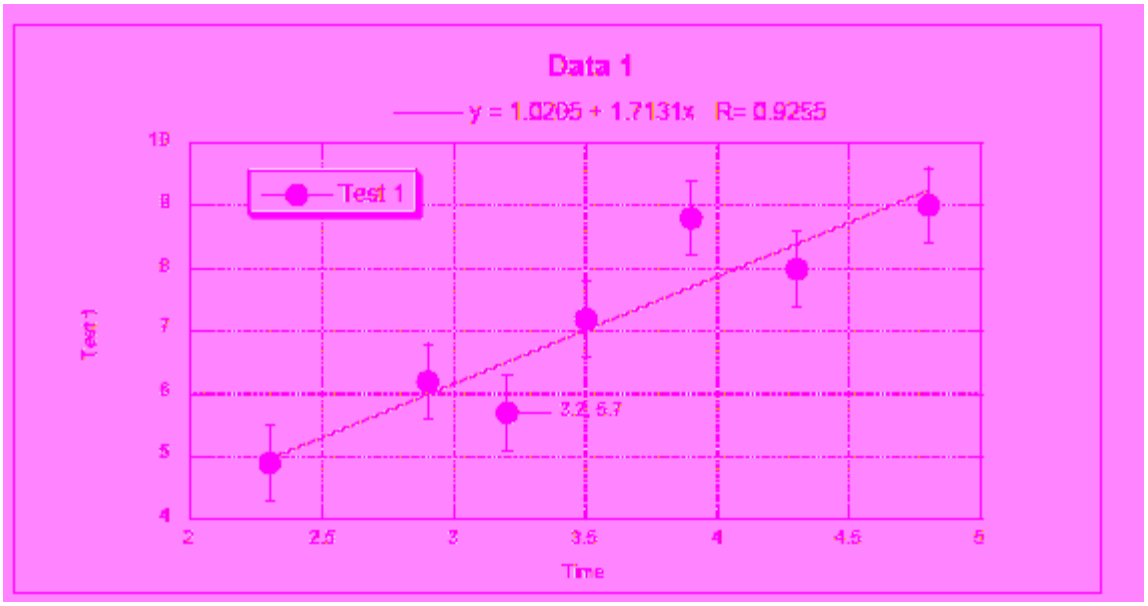

Link Error Bars
Standard Dev
Standard Error
Center Text
Color
Width
OK


Data 1
y = 1.0205 + 1.7131x R= 0.9255
Test 1
Test 1
Time
10
9
8
7
6
5
4
2
2.5
3
3.5
4
4.5
5

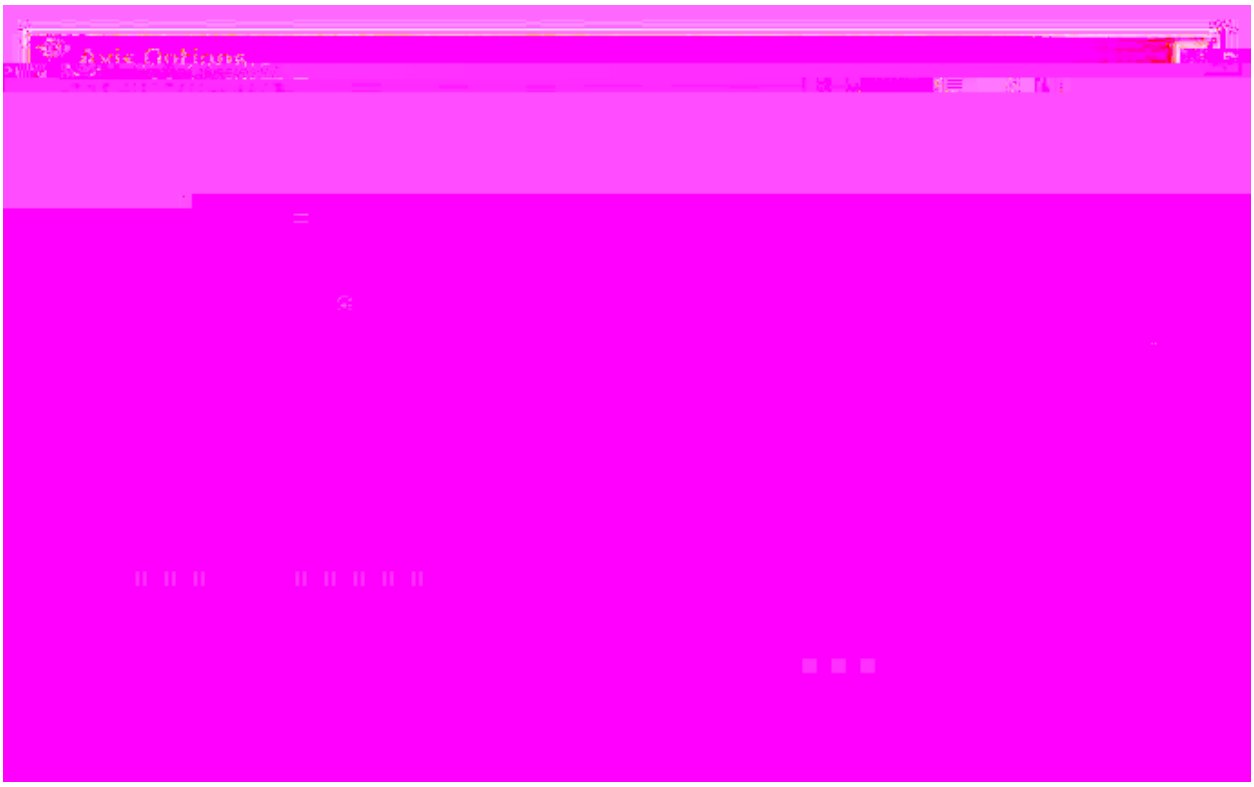
n n n o n o

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

n n

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

1. Choose > **n**.



2. Click **d** . The dialog changes to show the options that can be selected for the major and minor
grids.
3. Choose **Non** from the pop-up menu to the right of **M o** .
The next change is to remove the tick marks on the X axis.
1. Cl f

2. You can now select a different fill pattern for the columns. Click one of the fill patterns and a frame
appears around that pattern to show that it is selected.
3. Click .

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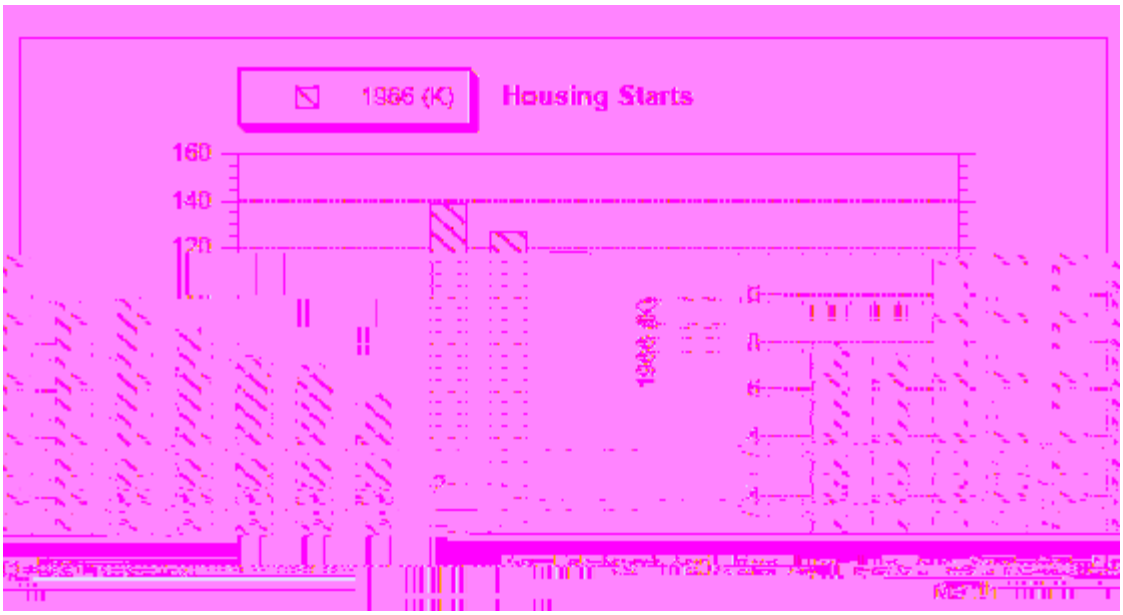
The next step is to increase the amount of space between the columns.
1. Choose **o** > **o** .
2. Change the **Co n ff** percentage from 20 to 40%.
3. Click to update the plot.
At this point, your plot should resemble the one shown in Figure 2-7.
Figure 2-7 Sample Column plot



n n o oo

The next step is 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:
1. Click any of the four axes to select the plot. Two sets of icons are displayed at the bottom of the
toolbox. The first icon displays two overlapping rectangles which control the interior and background color of the plot.
2. Click the rectangle in the foreground and select one of the lighter colors from the color palette that
appears. The selected color is used to fill the interior of the plot.

n L s

The following steps remove the X axis title, resize the Y axis title, and rotate the X axis labels.

1. Click the X axis title, **Mon** , and press **B c** **c** (Windows) or

1. Choose **L yo** > **A n L yo** . The Arrange Layout dialog allows you to enter the number of
rows and columns to divide the layout window into equal sections.
2. The default settings (two rows and one column) are sufficient for this example, so click . Notice
that the layout window is divided into two equal sections and the plots are automatically resized and
placed into these sections.

Mo y n n o n L yo

It is possible to display more than just plots in t

pop-up menu. Notice that the legend frame changes from a shadow box to a hairline width line.
4. Now click the Line Style icon (the one 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.
5. Finally, choose **Non** from the Line Style pop-up menu. This removes the legend frame completely
Now we can edit the text inside the legend.
1. Select the Text tool ( ) from the toolbox. You can select this tool by either clicking it or pressing
on your keyboard.
2. Double-click any of the three labels inside the legend. A dialog is displayed to modify the text.