6-PLOT

PURPOSE

Generate 6 plots on the same page that are useful after a fit.

DESCRIPTION

This plot is used after some type of fit to generate some of the most common diagnostic plots in a convenient way. The plots are:

1. observed and fitted dependent values against the independent variable (the observed values are automatically drawn using the plot symbol \text{X} while the predicted values are drawn as a solid line);
2. the residuals versus the independent variable (uses whatever the current settings are for the \text{LINE} and \text{CHARACTERS} commands);
3. the residuals versus the predicted values (uses whatever the current settings are for the \text{LINE} and \text{CHARACTERS} commands);
4. a lag plot of the residuals (uses an \text{X} as the plot symbol);
5. a histogram of the residuals;
6. and a normal probability plot of the residuals.

The 6-PLOT command does not perform a fit. It assumes that this has been done in a prior command and that the \text{PRED} and \text{RES} variables are the results from that fit. The dependent variable and the independent variable used in the fit are given as the 2 arguments to the 6-PLOT command. If a multi-variable fit was performed, specify the independent variable you want to use on the horizontal axis for the first 2 plots (plots against the remaining independent will have to be generated with additional PLOT commands).

SYNTAX

\text{6-PLOT <y> <x>} <\text{SUBSET/EXCEPT/FOR qualification}>

where \text{x} is the dependent variable that was used in the most recent fit;
\text{x} is an independent variable used in the most recent fit;
and where the \text{<SUBSET/EXCEPT/FOR qualification>} is optional.

EXAMPLES

6-PLOT Y X
6-PLOT RUN1
6-PLOT Y1 SUBSET TAG = 1

NOTE 1

If a fit has not yet been performed, DATAPLOT does not automatically generate one (and so the \text{PRED} and \text{RES} variables still contain all zero values).

NOTE 2

Remember that various commands generate updated values for \text{RES} and \text{PRED}. Specifically, LOWESS, SMOOTH, SPLINE FIT, and several others automatically update these variables. Be sure that the fit you want to plot was the most recent command to update the \text{RES} and \text{PRED} variables before entering the 6-PLOT command.

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

\begin{itemize}
\item \text{FIT} \quad \Rightarrow \quad \text{Performs a least squares linear or non-linear fit.}
\item \text{LOWESS} \quad \Rightarrow \quad \text{Performs a locally weighted least square regression.}
\item \text{SMOOTH} \quad \Rightarrow \quad \text{Smooth a time series.}
\item \text{SPLINE FIT} \quad \Rightarrow \quad \text{Performs a spline fit.}
\item \text{ANOVA} \quad \Rightarrow \quad \text{Performs an analysis of variance.}
\item \text{MEDIAN POLISH} \quad \Rightarrow \quad \text{Performs a median polish.}
\item \text{HISTOGRAM} \quad \Rightarrow \quad \text{Generates a histogram.}
\item \text{NORMAL PROB PLOT} \quad \Rightarrow \quad \text{Generates a normal probability plot.}
\item \text{PLOT} \quad \Rightarrow \quad \text{Generates a data or function plot.}
\end{itemize}
LAG PLOT = Generates a lag plot.
MULTIPLLOT = Allows multiple plots per page

APPLICATIONS
Exploratory Data Analysis

IMPLEMENTATION DATE
93/12

PROGRAM
. ALASKA PIPELINE RADIOGRAPHIC DEFECT BIAS CURVE
. PERFORM A LINEAR REGRESSION
SKIP 25
READ BERGER1.DAT MEAS TRUE
FIT MEAS TRUE
TITLE AUTOMATIC
CHARACTER CIRCLE
CHARACTER SIZE 1.2
CHARACTER FILL ON
LINE BLANK SOLID
6- PLOT MEAS TRUE