XBAR CHART

PURPOSE

Generates a mean control chart.

DESCRIPTION

An xbar (or mean) control chart is a data analysis technique for determining if a measurement process has gone out of statistical control. The xbar chart is sensitive to shifts in location in the measurement process. It consist of:

Vertical axis = the mean for each sub-group.
Horizontal axis = sub-group designation.

In addition, horizontal lines are drawn at the overall mean and at the upper and lower control limits. The distribution of the response variable is assumed to be normal. This assumption is the basis for calculating the upper and lower control limits.

SYNTAX

XBAR CHART <y> <x> <SUBSET/EXCEPT/FOR qualification>

where <y> is the response (= dependent) variable (containing the raw data values);
<x> is an independent variable (containing the sub-group identifications);
and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

XBAR CHART Y X
XBAR CHART Y X SUBSET X > 2

NOTE

The attributes of the 4 traces can be controlled by the standard LINES, CHARACTERS, BARS, and SPIKES commands. Trace 1 is the response variable, trace2 is the mean line, and traces 3 and 4 are the control limits. Some analysts prefer to draw the response variable as a spike or character rather than a connected line.

DEFAULT

None

SYNONYMS

XBAR CONTROL CHART, MEAN CONTROL CHART, MEAN CHART, X CHART, AVERAGE CONTROL CHART, and AVERAGE CHART are synonyms for XBAR CHART.

RELATED COMMANDS

R CHART	=	Generates a range control chart.
S CHART	=	Generates a standard deviation control chart.
P CHART	=	Generates a p control chart.
NP CHART	=	Generates a Np control chart.
U CHART	=	Generates a U control chart.
C CHART	=	Generates a C control chart.
Q CONTROL CHART	=	Generates a Quesenberry style control chart.
CHARACTERS	=	Sets the types for plot characters.
LINES	=	Sets the types for plot lines.
SPIKES	=	Sets the on/off switches for plot spikes.
BARS	=	Sets the on/off switches for plot bars.
PLOT	=	Generates a data or function plot.
LAG PLOT	=	Generates a lag plot.
4-PLOT	=	Generates 4-plot univariate analysis.
MEAN PLOT	=	Generates a mean versus subset plot.

APPLICATIONS

Quality Control

IMPLEMENTATION DATE

88/2

PROGRAM

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SKIP 25
READ GEAR.DAT DIAMETER BATCH
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LINE SOLID SOLID DOT DOT
TITLE AUTOMATIC
X1LABEL GROUP-ID
Y1LABEL MEAN
X CHART DIAMETER BATCH
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