

I PLOT**PURPOSE**

Generates an I plot.

DESCRIPTION

An I plot is used in 2 ways:

1. As a graphical data analysis technique (similar to the box plot, but simpler) for determining if differences exist between the various levels of a 1-factor model. It is a graphical alternative to 1-factor ANOVA. It consists of:

Vertical axis = response variable;

Horizontal axis = level identification.

The bottom of the bar is the data minimum; the middle x in the bar is the data median; the top of the bar is the data maximum.

2. As an uncertainty chart in which the analyst wishes to plot estimated values of a certain quantity and to also illustrate the uncertainty bars associated with each estimate. In this case, a given value of the horizontal axis variable is typically accompanied by exactly 3 values for the vertical axis variable:

1) the estimate - the uncertainty;

2) the estimate;

3) the estimate + the uncertainty.

For both applications, the resulting plot is similar in appearance. Namely, a target value which appears as an X; a vertical bar with small horizontal bars at the extremes (hence the name "I plot").

The I plot has 3 components (characters and lines) which can be individually controlled. For the I plot to appear as it should, the I PLOT command is usually preceded by 2 commands:

CHARACTERS I PLOT

LINES I PLOT

These commands automatically define proper values for the 3 components of the I plot. After the I plot is formed, the analyst should redefine plot characters and lines via the usual CHARACTERS and LINES commands.

SYNTAX

I PLOT <y> <x> <SUBSET/EXCEPT/FOR qualification>

where <y> is the response (= dependent) variable;

<x> is the horizontal axis (= independent) variable;

and where the <SUBSET/EXCEPT/FOR qualification> is optional.

EXAMPLES

I PLOT Y X

I PLOT Y X SUBSET X > 2

NOTE

The second use of the I plot (to draw error bars) has been supplanted by an explicit ERROR BAR PLOT command.

DEFAULT

None

SYNONYMS

None

RELATED COMMANDS

CHARACTERS	=	Sets the type for plot characters.
LINES	=	Sets the type for plot lines.
BOX PLOT	=	Generates a box plot.
ANOVA	=	Carries out an ANOVA.
MEDIAN POLISH	=	Carries out a median polish.
CONTROL CHART	=	Generates a control chart.
ERROR BAR PLOT	=	Generates a plot with error bars.
PLOT	=	Generates a data or function plot.

APPLICATIONS

Data Analysis

IMPLEMENTATION DATE

Pre-1987

PROGRAM

```
LET X = SEQUENCE 1 100 1 10
TITLE AUTOMATIC
LET Z = NORMAL RANDOM NUMBERS FOR I = 1 1 1000
CHARACTERS I PLOT
LINES I PLOT
CHARACTER SIZE 3 ALL
CHARACTER FONT SIMPLEX ALL
XTIC OFFSET 0.5 0.5
I PLOT Z X
```

