

REGION PATTERN

PURPOSE

Specifies the type of fill pattern for regions on subsequent plots or for certain types of diagrammatic graphics.

DESCRIPTION

On a plot, a region is defined as the figure formed by the line connecting points belonging to a common trace and a region base (typically zero). The REGION FILL command can be used to generate a fill of this region. The REGION PATTERN command specifies the type of fill and other attributes of the fill are set with additional REGION commands (see the RELATED COMMANDS section below). The attributes of the region border are set with LINE, LINE COLOR, and LINE THICKNESS commands.

The diagrammatic graphics commands CIRCLE, CUBE, DIAMOND, ELLIPSE, HEXAGON, PYRAMID, SEMI-CIRCLE, and TRIANGLE can be filled using the REGION FILL command. The BOX command has its own attribute setting commands.

SYNTAX

REGION PATTERN <pattern> <pattern> <pattern> etc.

where <pattern> is a character string that specifies the desired fill pattern. Up to 100 region fill patterns can be specified.

EXAMPLES

REGION PATTERN SOLID VERTICAL HORIZONTAL BLANK

REGION PATTERN D1 D2 D1D2 HOD1 VED2 VEDD

NOTE 1

The following region fill patterns are available:

BLANK, EMPTY, OFF	-	no fill
SOLID, ON	-	solid fill
HORI	-	horizontal lines
VERT	-	vertical lines
D1	-	up diagonals
D2	-	down diagonals
D1D2	-	both up and down diagonals
VED1	-	both vertical lines and up diagonals
VED2	-	both vertical lines and down diagonals
HOD1	-	both horizontal lines and up diagonals
HOD2	-	both vertical lines and down diagonals
VEDD	-	horizontal lines, vertical lines, and both up and down diagonals

In practice, the first 7 (OFF, ON, HORI, VERT, D1, D2, D1D2) are heavily used and the last 5 (VED1, VED2, HOD1, HOD2, VEDD) are rarely used.

NOTE 2

The diagrammatic graphics commands use the first setting of the REGION PATTERN command only.

NOTE 3

The REGION PATTERN command with no arguments sets the region pattern type to blank for all regions. The REGION PATTERN command with the word ALL before or after the specified pattern type assigns that region pattern type to all regions; thus REGION PATTERN D1 ALL or REGION PATTERN ALL D1 fills all regions with pattern D1.

DEFAULT

All region patterns are blank.

SYNONYMS

None

RELATED COMMANDS

PLOT	=	Generates a data or function plot.
REGION BASE	=	Sets the base locations for plot regions.
REGION FILL	=	Sets the on/off switches for region fills.
REGION FILL COLOR	=	Sets the color for region solid fills.

REGION PATTERN COLOR = Sets the color for region hatched fills.
 REGION PATTERN LINE = Sets the line types for region fill patterns.
 REGION PATTERN SPACING = Sets the line spacing for region fill patterns.
 REGION PATTERN THICKNESS = Sets the line thickness for region fill patterns.

APPLICATIONS

Presentation Graphics

IMPLEMENTATION DATE

Pre-1987 (the ability to generate hatch fills for non-rectangular regions was added 93/10)

PROGRAM

```
LET C = 1
LET FUNCTION F1 = C; LET FUNCTION F2 = -1.5*X + 9
LET FUNCTION F3 = 6; LET FUNCTION F4 = 1+0.3*X**2
XMINIMUM 0; YLIMITS 0 10
TITLE PLOT INEQUALITY REGIONS; TITLE SIZE 5
.
REGION FILL ON ALL
REGION BASE 0 10 10 0
REGION PATTERN SPACING 5 ALL
REGION PATTERN D1 HORI D2 VERT
.
LINE THICKNESS 0.3; LINE SOLID DASH SOILD DASH
X1LABEL SOLID = EQUALITY; X2LABEL DASH = INEQUALITY
.
PLOT F1 FOR X = 0 5 5 AND
PLOT F2 FOR X = 0 5 5 AND
PLOT F3 FOR X = 0 5 5 AND
PLOT F4 FOR X = 0 0.01 5
```

