The program *MAKEPATT* allows the user to define custom **TECHBASE** graphics patterns for polygon fills. Although **TECHBASE** supplies many common patterns, custom patterns can be useful for such tasks as differentiating areas on plan and regional maps or representing unique rock lithologies in cross sections. *MAKEPATT* runs from the operating system prompt and requires an input file that contains the new pattern's specifications.

Procedure:
Step 1.

First, you should make a sketch of the new pattern on graph paper. You can use this drawing as a visual guide as you create the pattern code in your input file.

Step 2.

You are now ready to make your pattern. You can create a *MAKEPATT* input file, here called *TEST.PAT*, in any text editor. An input file can contain more than one pattern definition, as long as each definition is separated by a blank line. Each pattern definition consists of a pattern number and pattern name, followed by a list of *pattern elements* that define the pattern. For each pattern element, the following format is required:

element_type origin_x origin_y azimuth spacing

> **Note**: Pattern numbers 0-3 are reserved for the predefined **TECHBASE** patterns: BLANK, HOLLOW, INSET, and SOLID, respectively.

The *element_type* is one of LINE, STROKE, or OVERLAY, which may be abbreviated to the first character. The *origin_x* and *origin_y*, given in meters, are the coordinates for the starting point of the pattern. This common coordinate will allow patterns to edge-match across adjacent polygons. The *azimuth*, given in degrees, is the orientation of the lines or strokes, and the *spacing*, given in meters, is the separation between parallel lines.

Pattern Elements

A LINE element is followed, on the next line in the pattern definition, by one of the **TECHBASE** line types, such as SOLID or 23. This denotes the type of line that will be drawn.

A STROKE element is followed by a line containing from 1 to 10 lengths. Each length is a positive number, in meters, that represents the length of alternating strokes and gaps. The first length is always assumed to be a stroke. After the final length, the STROKE element repeats.

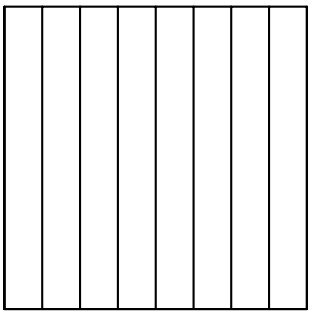
An OVERLAY element is followed by a line containing the number of the pattern to use as an overlay. This can be any valid pattern number, 1-255. There can only be one OVERLAY element in the pattern definition, and it must be the last element in a pattern.

> **Note**: All coordinates and offsets in a pattern definition are expressed in meters. Pattern dimensions may be rescaled in the *Graphics, Style* menu by entering a *Fill scale* other than 1.

Examine the following two pattern definitions and include one or both of them in *TEST.PAT*.

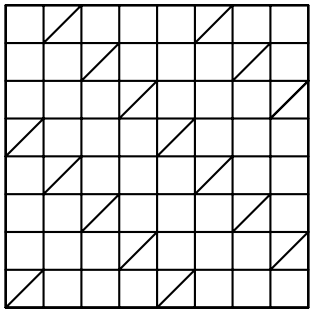
EXAMPLE 1: You wish to create a vertical line fill with solid vertical lines at a horizontal spacing of 5 mm between the lines. *TEST.PAT* would read as follows (on the left):

TEST.PAT	Explanation
58 vertical_lines	Line 1: 58 = the pattern number
	vertical_lines = the pattern name
LINE 0.0 0.0 0.0 0.005	Line 2: LINE is the element type
	0.0 = origin_x
	0.0 = origin_y
	0.0 = baseline azimuth (line direction in degrees)
	0.005 = line spacing 5 mm (offset, -90 to baseline)
SOLID	Line 3: SOLID = line style



EXAMPLE 2: Now you want a more complicated pattern with vertical lines, horizontal lines, and diagonals. Add the following definition to *TEST.PAT* (make sure to leave a blank line after pattern 58):

TEST.PAT		Explanation
59 varied_pattern	Line 1:	59 = pattern number
		varied_pattern = pattern name
LINE 0.0 0.0 90.0 0.005	Line 2:	LINE = element type
		0.0 = origin_x
		0.0 = origin_y
		90.0 = baseline azimuth (line direction in degrees)
		0.005 = line spacing 5 mm (offset, -90 to baseline)
SOLID	Line 3:	SOLID = line style
STROKE 0.0 0.0 45.0 0.00707106	Line 4:	STROKE = element type
		0.0 origin_x
		0.0 origin_y
		45.0 = baseline azimuth (line direction in degrees)
		0.00707106 = line spacing 7.07 mm
		(offset, measured -90 to baseline)
0.00707106 0.00707106	Line 5:	0.00707106 = first stroke, pen down, 7.07106 mm
		0.00707106 = second stroke, pen up, 7.07106 mm
OVERLAY	Line 6:	OVERLAY = element type
58		58 = pattern number



Step 3.
Move *TEST.PAT* to a temporary directory. You will now create a new *gpatt.0* file. This file stores all the **TECHBASE** pattern definitions from the *gpatt.0* in your *TBHOM* directory and the *TEST.PAT* file. To do this, type the following command at the system prompt:

makepatt u < TEST.PAT

To verify your patterns, type: ***makepatt p***, at the system prompt and view the resulting *patterns.met* file.

If this new set of patterns will be used for all of your **TECHBASE** projects, then you should copy your *gpatt.0* back to the *TBHOM* directory. If the patterns are only for a specific project, then copy the *gpatt.0* to that project directory. You will need to save a copy of all your *.PAT* files so that your customized patterns can be re-created in new versions of **TECHBASE**.

For more information on *MAKEPATT* and its program options, see **"makepatt – build and install user defined patterns" on page 1gr-21**. To examine the standard patterns, see **"Value Lists" on page 0-29**.

