A GRAPHING Tool
by Kenneth P. Goldberg

This microworld allows you to study data as it is being entered into the computer by displaying (1) the data in a table; (2) the data in a bar graph; (3) the original set of raw data; (4) the number of pieces of data; and (5) the standard deviation of the data. To use this microworld, load the page called GRAPHING and then type GRAPHING and press <RETURN>. You can now enter data, one at a time, by typing DATA, a space, the data value, individually or collectively in a list, and pressing <RETURN>.

Examples:
DATA 5 <press RETURN>

DATA [8 10 11] <press RETURN>

The previous commands enter four pieces of data (5 8 10 11) into the computer's memory. When you have entered a set of data, you can use any of the following commands to obtain information about the data:

N: Displays the number of pieces of data entered
M: Displays the mean of the data entered
SD: Displays the standard deviation of the data entered
RAW.DATA: Displays the raw data values on the screen
GRAPH: Displays a bar graph of the data
TABLE: Displays a table of the data

When you want to enter additional data, type CONTINUE and press <RETURN>. The screen will clear and a message to enter additional data will appear. Yoy can then use DATA to enter more data values. To begin with an entirely new set of data, type GRAPHING and press <RETURN>. This will clear all lists pertaining to the old data. Δ
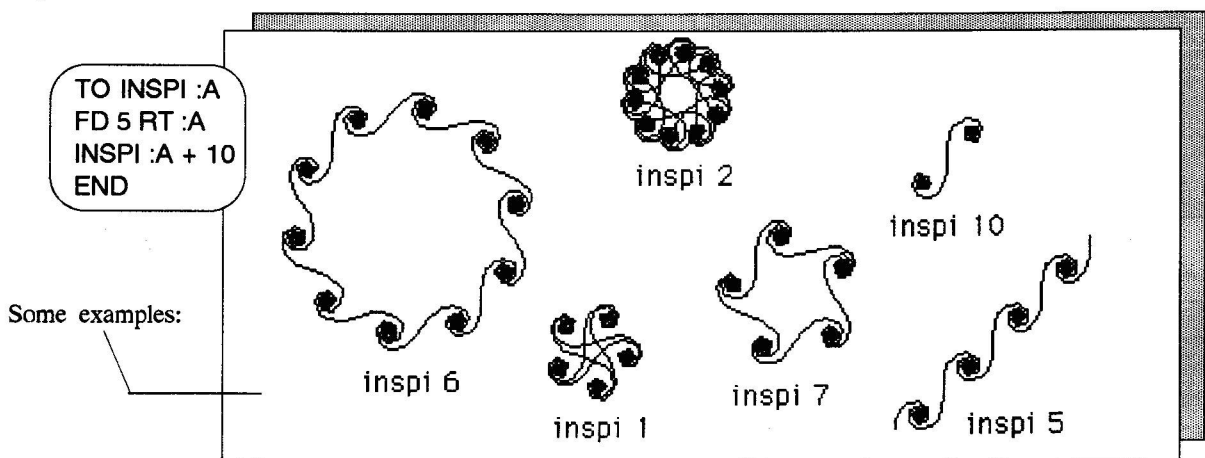

Inspi
by Bill Craig

This microworld is taken from the Virginia Mathematics Teacher Journal.

I have a real penchant for uses of Logo which require little effort but provide a lot of mathematics. The recursive procedure INSPI is an example of such a Logo use. INSPI initially appeared in the Logo literature as a means of introducing recursion, but it also has value in a math classroom. Here is the procedure:

INSPI 5, INSPI 9, INSPI 10, INSPI 12. After looking at several INSPIs, we decided that the possibilities are 2, 5, 10, and many.

Students are sent to their computers. Their task is to run many inspis and record the results. Students can have several entries in each category in no more than 10 minutes of computer time.

The payoff comes when students get back together and compare answers. As this data is being collected, students


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TO INSPI :A
FD 5 RT :A
INSPI :A + 10
END
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Some examples:

inspi 2
inspi 10
inspi 6
inspi 1
inspi 7
inspi 5

The focus of the INSPI activity is to have students predict which inputs produce which designs.

I begin by showing several different INSPIs to the whole class. Inputs can be chosen randomly, but the following list will provide the needed variety: INSPI 2, INSPI 3, INSPI 4,

should begin to see similarities in the numbers found under each heading. Eventually the following patterns should be found:

2 clusters. Younger students may conclude that all these