CHAPTER 9
Elementary Programming with LOGO

The purpose of this chapter is to learn how to create, edit, store, and run a program in LOGO.

There are two programming terms we will use, <u>procedure</u> or <u>program</u>. A <u>program</u> is a list of commands for constructing our desired picture. You wrote several in chapter 8. A <u>procedure</u> is a custom built command (just a program really), usually requiring some numerical input, for doing some particular task, which we expect to incorporate into our programs. For example, we will want our name on all our pictures. Try typing the "command" **myname 100 100** into the commander window. What happened?

LOGO has not been instructed in how to execute the command "myname". So let's write a procedure called "myname" that instructs the LOGO to place our name wherever we want it on the screen.

In the text Commander window enter the following command
edit "myname

An editor window will come up with the first line already entered as
TO MYNAME

Add the variable inputs to the myname procedure as **:x :y** and continue as below:

> **TO MYNAME :X :Y**
> **SETXY :X :Y**
> **LABEL "put_your_name_without_spacehere**
> **END**

The colon in front of X and Y indicates these are variable notations. Now when you use the command MYNAME logo will expect two numbers to be given in order with space between and will use these numbers for :X and :Y wherever they appear in the procedure.

From the **File** option choose **Save and exit** . Now try the command **myname 100 100** in the commander window to see if it works. Did it do what you wanted? Probably not. Choose **E**dit from the **File** menu and choose your program "myname" to be edited so as not to draw the line to the position. Be sure to put the pen back down before ending your procedure.

To save this procedure to your files choose **Save** from the **File** menu and name your file myname.lgo .

Here are a few more commands you might wish to use sometime:
Explain effects of

seth (setheading)

seth 45

seth 90

seth 130

show heading

show pos

setpos [100 50]

setpos [-50 200]

Exercises. 1. Write and save a procedure called **npoly**, which draws a regular polygon with N sides each of length L and constructed to the right. Attach a printout of the first 10, beginning with a triangle constructed at [-100 0], all drawn on the same picture. Choose the side lengths all 50. Be sure your name is at the top center of the printout. Put your program in the table below.

2. Write and save a procedure called **nstar,** which draws a regular star with N vertices, each side of length L. Attach a printout of the first 5 "odd" ones with side length 100. Put your name in the upper right hand corner of the printout. Put your program in the table below.

3. Write and save a procedure called **nstar2** that draws the stars using the turning angle 3*360 divided by the number of vertices. Attach a printout of the first 5 odd ones with side length 75. Put you name at the bottom of the printout. Put your program in the table below.