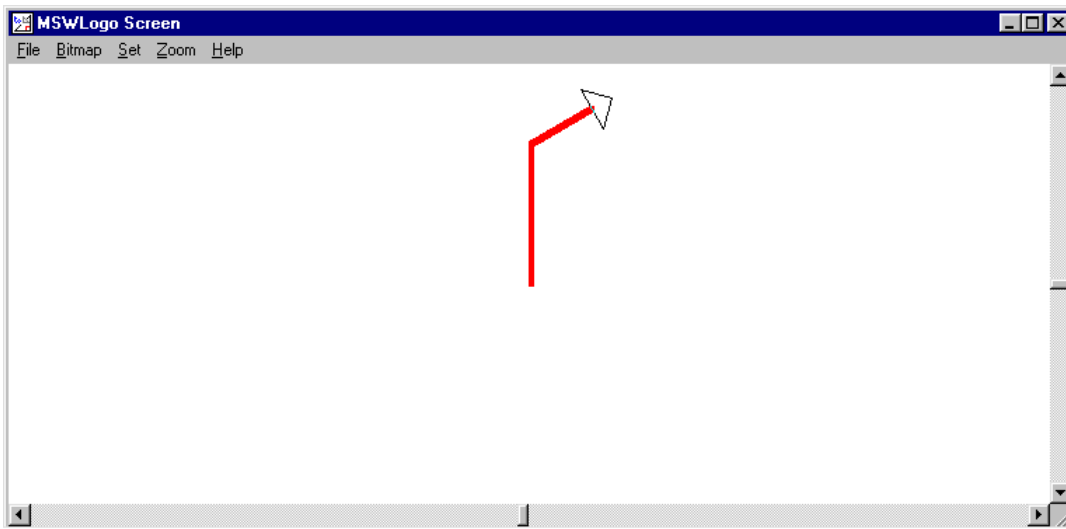


## MSW Logo

This is a free program which can be downloaded from the Internet at:

<http://www.softronix.com/logo.html>

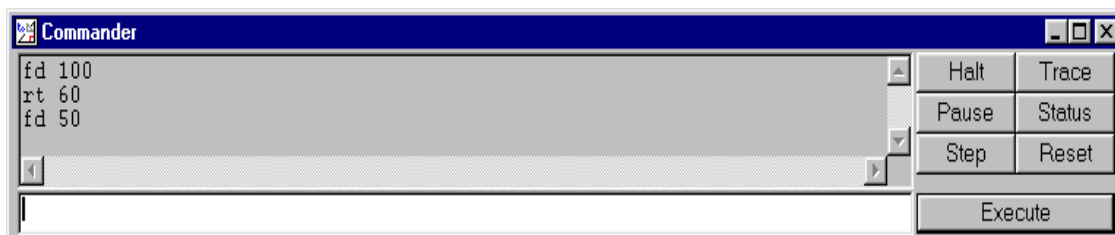
MSW Logo uses simple commands to move the turtle around the screen.



When the turtle moves,  
it draws a line behind it.

You can change the  
colour and thickness of  
the line by using the Set  
menu.

The turtle looks like  
a triangle in the  
middle of the screen.  
The head shows  
which direction it is  
facing.



When you type a command, you don't need to use capital letters, but you do need to leave a space between the command and the value eg. forward 100 will work but forward100 will return the message "I don't know how to forward100".

Here are some commands to start you off, along with their shortcuts.

| Command     | Action   | Shortcut |
|-------------|--|----------|
| forward 100 | moves the turtle forward 100 units.  | FD 100   |
| back 50     | moves the turtle back 50 units.  | BK 50    |
| right 90    | moves the turtle 45 degrees to the right   | RT 90    |
| left 45     | moves the turtle 45 degrees to the left  | LT 45    |
| clearscreen | erases the screen and returns the turtle to its "home" position in the centre of the drawing screen. | CS       |
| home        | returns the turtle to its origin   | HOME     |

Try drawing a square using the turtle:

```
FORWARD 100
RIGHT 90
FORWARD 100
RIGHT 90
FORWARD 100
```

```
RIGHT 90
FORWARD 100
RIGHT 90
```

A lot of typing! A quicker way to draw the same square would be:

```
REPEAT 4 [FD 100 RT 90]
```

This uses the **REPEAT** command and short versions of FORWARD and RIGHT. The command to be repeated needs to be enclosed within square brackets.

Can you fill in the blanks on this table?

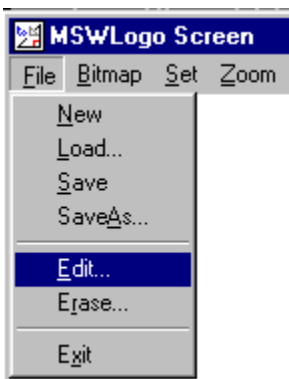
|                          |                           |
|--------------------------|---------------------------|
| REPEAT 3 [FD 100 RT 120] | This produces a triangle. |
| REPEAT 5 [FD 100 RT 72]  | ?                         |
| ?                        | This produces a hexagon.  |
| REPEAT 7 [FD 100 RT 51]  | ?                         |
|                          | This produces an octagon. |

You can also nest repeats within other repeats!

Try:

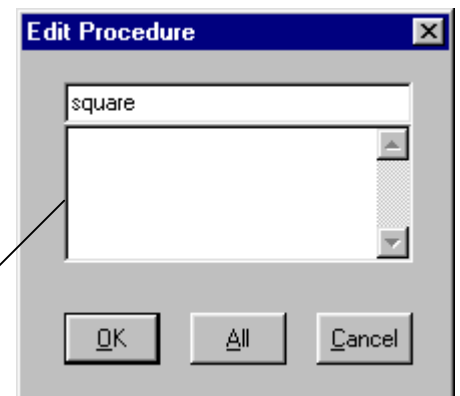
REPEAT 36 [REPEAT 3 [FD 90 RT 120] RT 10]

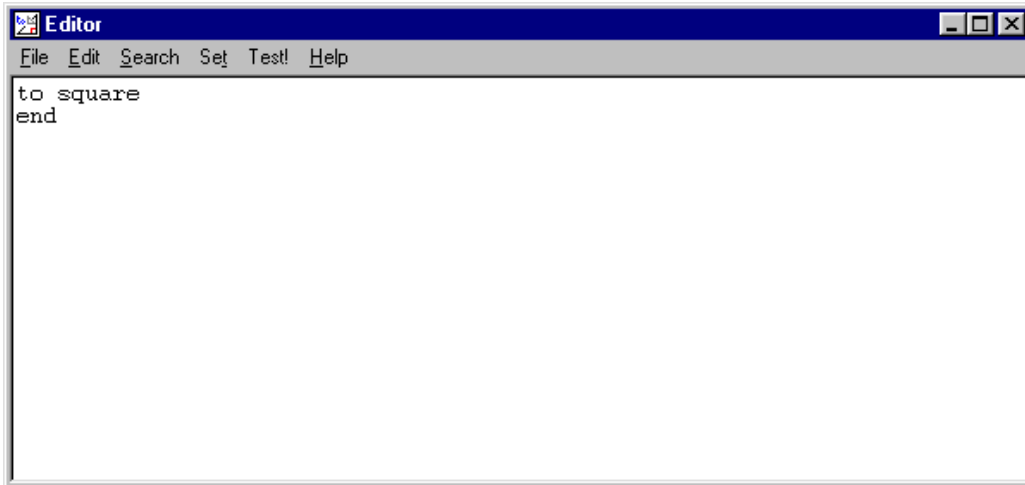
### Creating a Procedure



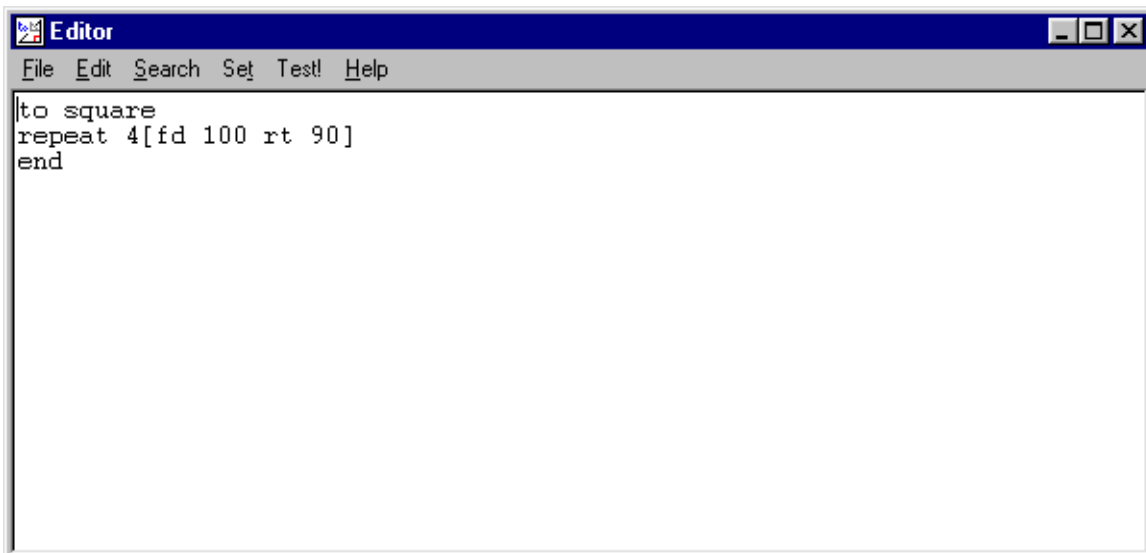
You can use Logo to write procedures (small programs) so that you only have to type in the word square to draw a square, for example.

Click on File, then Edit.  
This 'Edit Procedure' box will pop up.  
Type in a name for the procedure you wish to create eg. square, then click OK.

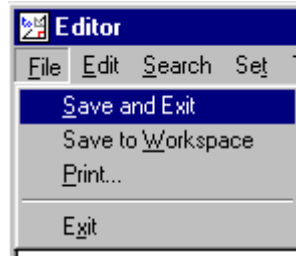




The Editor will appear with the beginning and end of the procedure defined.



Type in the command for the procedure between the **to** and **end** commands, then click on Save and Exit from the file menu.



Now type the word square in the command line and a square should appear!

Try writing a procedure within a procedure ....

TO FLOWER

REPEAT 60 [SQUARE RT 6]

END