

# Turtle Fun 1.0

Copyright © 1991 by Michael J. Gibbs, all rights reserved.

Turtle Fun is freeware, enjoy it.

This software may not be sold, but may be given away freely provided this document accompanies it.

## System requirements:

Mac Plus or later, system 6 or later.

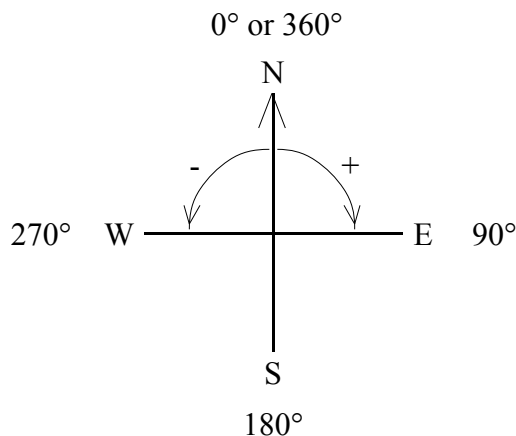
## DISCLAIMER:

This software has been tested on a Macintosh IICx running both system 6.0.5 and system 7.0, in B & W, 2, 4, and 8 bit color. Since it has not been tested on other machines or with other versions of the system software, I cannot take responsibility if it fails to run properly on any particular system.

Turtle fun is a simple application that implements turtle graphics. The turtle graphics concept was developed to teach graphics to children and is based on the notion of a turtle carrying a pen. The turtle can be instructed to move or turn while holding the pen up (off the “paper”) or down (on the “paper”).

Turtle Fun lets you type instructions for the turtle into a command window which is displayed below the turtle window. A series of instructions can also be stored in a text file. The contents of the turtle window can be saved as a PICT image, or a PICT image can be loaded from disk for display in the turtle window.

The turtle lives in a coordinate system that has its origin (0,0) at the center of the turtle window and looks like this:



The instructions that can be given to the turtle are listed below. Words in <braces> are numbers or names to be supplied when typing the instruction, do not type the braces or the word itself. You can place as many instructions on each line as you want, separated by one or more space characters, except for “open” and “save”, which cannot have any instructions after them on a line.

**back** <distance> *or* **bk** <distance> - move backwards by the given amount, drawing if the pen is down.

**clear** - clear the turtle window and move the turtle to the home position (centered in the turtle window, facing north).

**color** <red> <green> <blue> - set the color of the turtle's pen to the given color. <red>, <green>, and <blue> represent an RGB color value, and each is a number from 0 to 65535.

**color** <color name> - set the color of the turtle's pen to the given color. <color name> may be **black**, **white**, **red**, **green**, **blue**, **cyan**, **magenta**, or **yellow**.

**delay** <ticks> - sets the delay between executing each turtle instruction. Only really makes sense when loading instructions from a file.

**forward** <distance> *or* **forwrd** <distance> *or* **fd** <distance> - move forward by the given amount, drawing if the pen is down.

**go** <x coordinate> <y coordinate> - move to the given x,y position without drawing.

**go home** - move to the home position, drawing if the pen is down.

**goto** <x coordinate> <y coordinate> - move to the given x,y position without drawing.

**heading** - display the direction the turtle is facing.

**hide** *or* **hideturtle** *or* **hide turtle** - hide the turtle. Everything else works the same, but you don't see the turtle itself. Handy for use in a file of instructions when you don't want the turtle whipping around the screen.

**home** - move the turtle to the home position (centered in the turtle window, facing north).

**left** <amount> - turn left by the given number of degrees.

**open** <filename> - Load a file of turtle instructions. The same as picking "open" from the file menu. Everything after "open" on the line is treated as part of the file name, so no other instructions can appear on the line.

**pencolor** *or* **pen color** - same as **color**, above.

**pendown** *or* **pen down** - put the pen down so that moving the turtle causes drawing to take place.

**penup** *or* **pen up** - lift the pen so that moving the turtle does not draw anything.

**quit** - same as picking "quit" from the file menu.

**right** <amount> - turn right by the given number of degrees.

**save** <filename> - save the turtle window as a PICT image with the given name. The same as picking "save as..." from the file menu. Everything after "save" on the line is treated as part of the file name, so no other instructions can appear on the line.

**showturtle** *or* **show turtle** - make the turtle visible.

**turnleft** <amount> *or* **turn left** <amount> - same as **left**, above.

**turnright** <amount> *or* **turn right** <amount> - same as **right**, above.

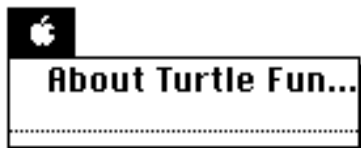
**turnto** <new heading> - turn to the given angle (in degrees).

**x** - display the horizontal position of the turtle.

**y** - display the vertical position of the turtle.

Any of these instructions can be placed in a file and executed all at once. To do this, use your favorite word processor or text editor and create a text-only file. You can place as many instructions as you want on each line (except for "open" and "save"), but a line cannot exceed 255 characters. Once your file is created, select "open" from the file menu or type "open <filename>" and all the instructions in the file will be executed.

Turtle Fun has three menus:



Selecting “About Turtle Fun...” brings up a really radical dialog box.

File	
Open...	⌘O
Save As...	⌘S
<hr/>	
Quit	⌘Q

Selecting “Open” and choosing a file causes a set of turtle instructions to be executed, if it’s a text file, or a picture to be loaded into the turtle window if it is a PICT file.

Selecting “Save As...” saves the turtle window to a PICT file.

Edit	
Undo	⌘Z
<hr/>	
Cut	⌘H
Copy	⌘C
Paste	⌘V
Clear	

The items in the edit menu do the usual things. If the turtle window is active, a picture is cut, copied, pasted, or cleared. If the command window is active, the current text selection is cut, copied, pasted, or cleared.

Turtle Fun uses an off-screen buffer to store the image that the turtle is drawing. If you are running Multifinder or System 7 (or later) and part of your picture is not redrawn when it has been covered by another window and then uncovered, you need to give Turtle Fun more memory. From the Finder, do a “Get Info” on Turtle Fun and increase its partition size. The amount of memory needed is based on how many colors you are displaying and how large the monitor is. Black and white monitors will require less than color ones of the same size, while larger monitors will require more than smaller ones.