

The Wonderful World of FRACTALS

You are going to love this. The program on the attached disk (FRACTINT) allows you to explore the mathematical set, known as the Mandelbrot set, and many other examples of fractal geometry. What you get, mathematics aside, are pictures of amazing complexity and beauty.

Fractals are, by definition, entities which have the same basic structure at varying levels of magnification. One of the most interesting tools in this program is the "fractal microscope" which allows you to "blow up" small parts of the overall pattern and find new patterns. This process can be repeated to 20 or more levels of magnification, depending on the computing power of your computer.

Getting started:

1. You can run this program directly from the disk by:

- Entering A:Fractint

2. But it will run faster if it is loaded into its own directory on the hard disk drive:

- Use Windows to create a new folder named "Fractal" and copy everything into this directory

OR

- Enter DOS (the one with the C> prompt)

- Enter MD Fractal

- Enter Copy A: C:\Fractal

3. After your computer copies the files into the new directory, you can start the program by entering:

- CD\Fractal

- Fractint

4. Or you can create a shortcut to this program in Windows.

The Basics:

1. After you start the program, press "enter" 2 or 3 time until you have a picture on the screen. This, by the way is the Mandelbrot set, a mathematical entity in the complex plane.

2. Press "c" (this switches to the color change mode)

3. Press Enter (as many times as you like - sometimes, food pellets will emerge from the computer)

4. Press "-" (or "minus" for you verbal types) to reverse the direction of the motion

5. Press "esc" to stop

Exploring with the Fractal Microscope:

1. With the picture stopped, use the "page-up" (and "page-down") key to create a smaller window frame. This is the lens of the microscope.
2. Use the arrow keys to position this over some interesting part of the picture; and press enter. This produces a new picture of the area you have selected. (A mouse can also be used to operate the microscope.)
3. Repeat this process as many times as you like. (Remember to watch for those food pellets.)
4. Use the plus and minus signs to place the picture in motion. And the enter key to change the color pattern.

Advanced Stuff:

1. Hit escape a few times and you will find options for various settings; and ways to save pictures you particularly like. (only problem here is they each take up about 100k of memory).
2. Check out the many other fractals under "fractal type" in the main menu. The variations on the Julia set are particularly interesting. And I particularly like the pictures found under "lssystem." (Check out Double Cesaro set to 8 or higher; or the Dragon Curve set to 10 or higher; or Plasma set to anything.)
3. Play with this and figure it out. (You expected me to tell you everything here?) Most of all have fun.

Give it away:

1. If you like this program, then copy the disk for a friend. (I am pretty sure this is virus free - but it doesn't hurt to check.)
2. When 10 million people have this on their computer, it will signal an invasion from Brotworld...

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