Project I (Daily Assignment #8)

(due: Thursday, February 17, 9:30 am)

The Thursday class will be in seminar form. You will each give ten minute long talks about your project I. As part of project I (this assignment) you write a fractal growth program and do its analysis, you write a paper about it, and you present your work in class in the form of a ten minute long talk.[1]

1. Pick a project of your own choice within the topic of fractal growth. Examples are: (1) Do a variation on the DLA model (e.g. include wind or change the shape of the lattice) and determine the fractal dimension of your resulting cluster.[2] (2) Program a different fractal growth model, e.g. the Leath algorithm described on page 455, or the Epidemic model (p. 465), or the Eden model (p. 465). Write your program with plenty of comments, because if time permits, then you will exchange and explain to each other your programs on Thursday in class. (As answer to this assignment, send me the complete pathname of your program.)

2. Write a paper (2-3 pages) about your project. Your paper should include: (1) Definition of your model.[3] (2) Parameters you used. (3) Results (4) Conclusions. (Please hand me a hardcopy of your paper.)

3. Prepare your 10 min long talk for Thursday. Prepare transparencies and/or demo simulation runs and/or what you would like to write at the blackboard.

4. What of the last class and this assignment did you find most interesting and/or most difficult?

[1] Your paper and talk of project I will be graded.

[2] For the DLA program you may use the solutions to the in class work:
~kvollmay/classes.dir/capstone_s2005.dir fractal.dir/DLA*.cc

[3] If you do a variation on the DLA model, then refer to the original reference of the DLA program, but explain your variation on the model in detail.