MAT 494 — SpTp: Computer Graphics, Spring 2005

Homework #2, Due on Friday, January 28th

In this homework you will be implementing the DDA and the Bresenham midpoint line rasterization techniques. Remember your program must compile and execute or you receive a 0.

Project Requirements:

1. Provide a way to switch between each algorithm using the keyboard. When the user presses 'd', use the DDA algorithm. When the user presses 'm', use the Bresenham algorithm. When the user presses 't', plot all three in different colors. When the user presses 'g', use the OpenGL algorithm.

2. Provide a keyboard entry method. When the user presses 'k', allow the user to give the starting and stopping 2D coordinates of a line.

3. Provide a mouse entry method. When the user presses the left mouse button down to start a line, and lifts up the button to end the line.

4. Provide a README which describes how to use your system and how you expect your system to react to different commands/input. Do this even if it completely matches the instructions above. In the README, discuss the differences in the results of DDA, Bresenham, and the OpenGL line.

Grading Information:

1. README Questions and Answers: 10

2. User Interface: 10

3. DDA Implementation: 30

4. BRESENHAM Implementation: 50