UM EECS 487
Lab 1: Line Rasterization

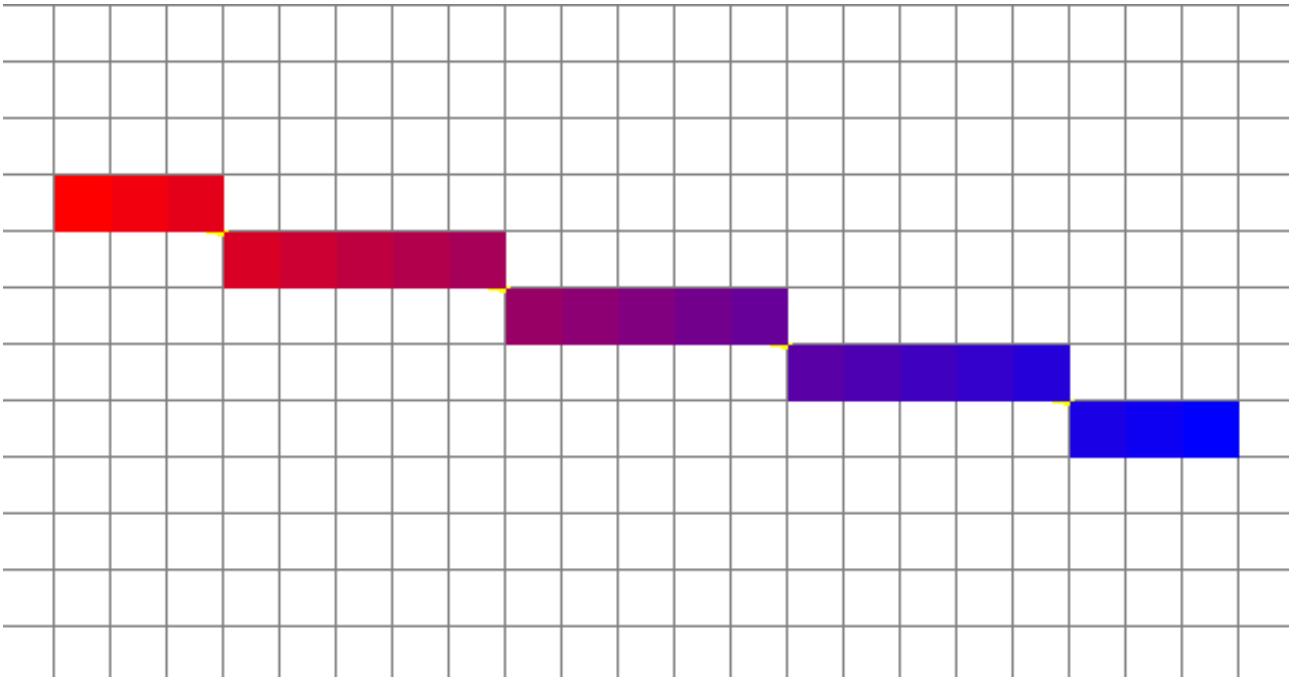

FIGURE 1. A rasterized line with the color interpolated from red to blue.

In this lab you will implement line rasterization on a coarse grid of virtual pixels. The support code provided displays a grid of squares, each representing a pixel. For the purpose of this discussion the term *virtual pixel* will refer to such a square. As shown in Fig 1, the endpoints of the line appear in red and blue when the user clicks on the squares on the grid. Running the provided code, two clicks give you two endpoints and a yellow line connecting them; an additional click resets the screen.

Your task is to implement an algorithm to calculate and plot the virtual pixels that form the line between these two endpoints. Your virtual pixels must interpolate the color between the end-points. You can start with the `display()` function that is registered as the display callback function with GLUT. You may add helper functions if you wish.

The one function you will absolutely need to use to *plot a virtual pixel* with a specified RGB color is:

```
void drawpoint(int x, int y, Glclampf r, Glclampf g, Glclampf b);
```

You are encouraged to examine how this function is implemented.

The best way to approach this lab it to try and write one single function that does the iteration and then call it with varying input. One thing to consider, are there any *edge cases* with this lab? Those would be specific cases where the algorithm "falls apart."