Problem Statement:

4.1 Replace the *drawLine* method based on Bresenham's algorithm and listed near the end of Section 4.1 with an even faster version that benefits from the symmetry of the two halves of the line. For example, with endpoints P and Q satisfying Equation (4.1), and using the integer value x_{Mid} halfway between x_P and x_Q, we can let the variable x run from x_p to x_{Mid} and also use a variable x_2, which at the same time runs backward from x_Q to x_{Mid}. In each iteration of the loop, x is increased by 1 and x_2 is decreased by 1. Note that there will be either one point or two points in the middle of the line, depending on the number of pixels to be plotted being odd or even. Be sure that no pixel of the line is omitted and that no pixel is put twice on the screen. To test the latter, you can use XOR mode so that writing the same pixel twice would have the same effect as omitting a pixel.