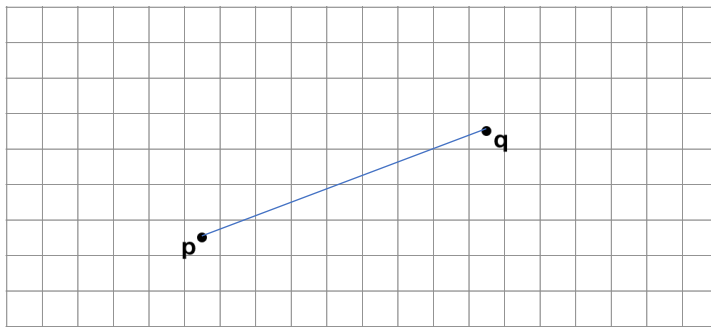


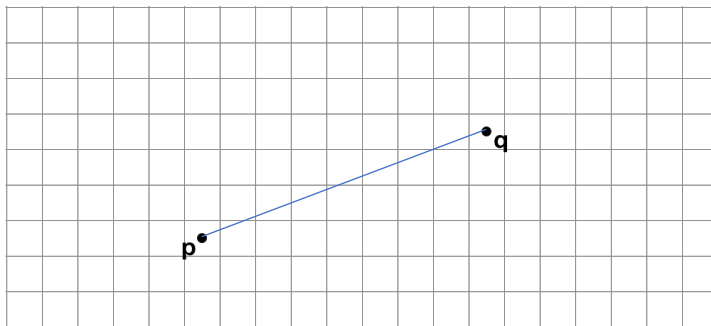
CSCI 480/580 – Lecture 25 Problems: Line Drawing

Group members: _____

1. **Artisinal Line Drawing** Fill in the pixels in the grid below that you think should be colored to draw a line between **p** and **q**.



2. **Algorithmic Line Drawing** Devise a rule or algorithm to determine which pixels should be turned on to draw a line from **p** to **q**. Describe your approach in pseudocode, then apply your algorithm to the pixel grid below.



3. Implement a faster version of `slow_line`, below, by doing as much precomputation as possible before the loop.

```
function slow_line(p1, p2):  
    // compute m, b  
    for x = xmin:xmax  
        y = b + m*x  
        draw(x, round(y))
```

```
function fast_line(p1, p2):  
    // compute m, b  
  
    for x =  
  
        draw(x, round(y))
```