

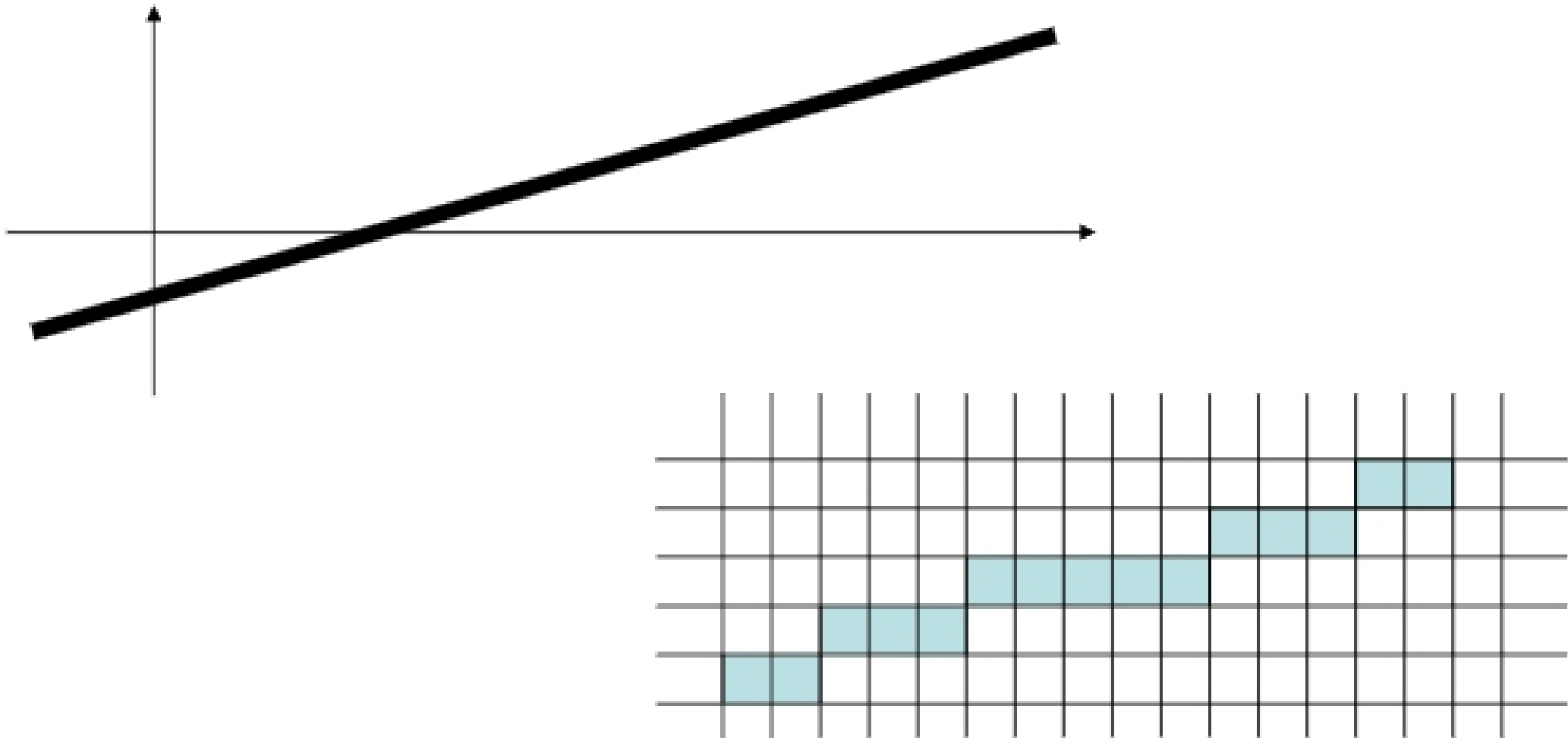
# Drawing Lines

The Bresenham Algorithm for drawing lines and filling polygons

# Plotting a line-segment

- Bresenham published algorithm in 1965
- It was originally to be used with a plotter
- It adapts well to raster “scan conversion”
- It uses only integer arithmetic operations
- It is an “iterative” algorithm: each step is based on results from the previous step
- The sign of an “error term” governs the choice among two alternative actions

# Scan conversion



The actual line is comprised of points drawn from a continuum, but it must be “approximated” using pixels from a discrete grid.