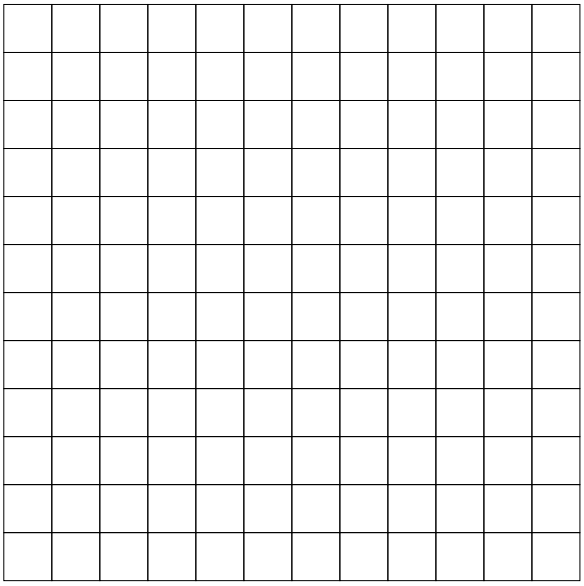
Tutorial No. 1: Bresenham's Algorithms

1. Illustrate the Bresenham Line Drawing Algorithm by digitising (by hand!) the line joining endpoints $(\frac{20}{10})$ and $(\frac{30}{18})$.

   Hint: You may find it useful to tabulate your inter-mediate results:

k	p_k	$\left(\frac{x_{k+1}}{y_{k+1}}\right)$
0	6	$(\frac{21}{11})$
...	...	...

   Use the following grid to draw the line:



2. When developing Bresenham's Line Drawing Algorithm a decision parameter p_k was used to assist in the development of an *incremental integer algorithm* to generate the line's pixels. This decision parameter method can be applied to drawing other geometrical shapes.

   Use the same stages utilised in the derivation of the line algorithm to derive Bresenham's Algorithm for circles.

3. Write the **C** code to implement the algorithm in the previous question. Use pseudocode as necessary.

References: Computer Graphics, Section 3-2