

### Algorithm: DDA Line Drawing Algorithm

1. Accept the starting point coordinates  $(x_1, y_1)$  and the ending point coordinates  $(x_2, y_2)$ .
2. Calculate the differences:
  - $dx = x_2 - x_1$
  - $dy = y_2 - y_1$
3. Determine the number of steps required as the maximum of  $|dx|$  and  $|dy|$ .
4. Compute the incremental values:
  - $x_{inc} = dx / steps$
  - $y_{inc} = dy / steps$
5. Initialize the starting values  $x = x_1$  and  $y = y_1$ .
6. Repeat the following steps from  $k=0$  to  $steps$ :
  - Plot the pixel at  $(round(x), round(y))$ .
  - Update the values of  $x$  and  $y$  by adding  $x_{inc}$  and  $y_{inc}$  respectively.
7. Continue the process until the end point is reached.