Algorithm for Line Drawing (onecase)

Step 1:

Input the starting and ending points:
x1, y1 (starting point)
x2, y2 (ending point)

Step 2:

Calculate the absolute differences:
$\Delta x = |x2 - x1|$
$\Delta y = |y2 - y1|$

Step 3:

Determine the decision parameter:
$p = 2\Delta y - \Delta x$

Step 4:

Initialize the starting point:
x = x1, y = y1
Store the initial point in the list:
xes = [x1], yes = [y1]

Step 5:

Iterate through the x-coordinates until x = x2:
If $p < 0$:
  Increment x by 1: $x = x + 1$
  Update p: $p = p + 2\Delta y$
Else:
  Increment x and y by 1:
    $x = x + 1, y = y + 1$
  Update p: $p = p + 2\Delta y - 2\Delta x$
Add the new x, y values to the lists xes and yes.

Step 6:

Print the coordinates:
Display the x and y values stored in the lists xes and yes.

Step 7:

Plot the points:
Use a graphing library (e.g., Matplotlib) to plot the line with the coordinates stored in xes and yes.

Step 8:

Stop when x = x2.