Midpoint Circle Algorithm

Step 1: Read the radius r and center coordinates (xc, yc).

Step 2: Initialize the starting point of the circle as x = 0 and y = r.

Step 3: Initialize the decision parameter p = 1 − r.

Step 4: Plot the initial 8 symmetric points using circle symmetry.

(x+xc, y+yc), (-x+xc, -y+yc), (x+xc, -y+yc), (-x+xc, -y+yc),

(y+xc, x+yc), (-y+xc, x+yc), (y+xc, -x+yc) and (-y+xc, -x+yc)

Step 5: Repeat the process while x < y.

Step 6: Increment x by 1.

Step 7: If p < 0, update p = p + 2x + 1.

Step 8: If p ≥ 0, decrement y by 1 and update p = p + 2(x − y) + 1.

Step 9: Plot the new 8 symmetric points.

Step 10: Stop the algorithm when x ≥ y.