Midpoint Circle Drawing Algorithm

Step 1: Start

Step 2: Declare variables

- x, y = current point coordinates
- r = radius
- cx, cy = circle center coordinates
- p = decision parameter

Step 3: Read the values of r, cx, cy

Step 4: Initialize starting point

- x = 0
- y = r

Step 5: Calculate the initial decision parameter

- p = 1 - r

Step 6: Repeat until x >= y

a. Check the decision parameter:

- If p < 0
    - x = x + 1
    - y = y
    - p = p + 2*x + 1

- Else (p >= 0)
    - x = x + 1
    - y = y - 1
    - p = p + 2*x - 2*y + 1

    b. Determine symmetry in the other 7 octants

    c. Calculate the actual coordinates
    - X = x + cx
    - Y = y + cy

Step 7: Plot all points

Step 8: Stop