***MIDPOINT CIRCLE DRAWING ALGORITHM***

* **Initialize Values:**

 Set x=0 , y=r , and p=1−r (initial decision parameter).

* **Plot Initial Symmetric Points**:

Add the symmetric points to the xes and yes lists based on the formula:

* (x,y), (−x,y), (x,−y), (−x,−y),
* (y,x), (−y,x), (y,−x), (−y,−x).

These points cover all 8 octants of the circle using symmetry.

* **Loop:**
* While x<y, repeat the following:
* **Increment x** by 1.
* Update the Decision Parameter:
* If p<0, update p=p+2x+1 (move horizontally).
* If p≥0, update y=y−1and update p=p+2(x−y)+1 (move diagonally).
* **Plot New Symmetric Points**
* Add the new symmetric points based on updated x and y to the xes and yes lists, just as in the initial plot.
* **Finish:**
* Once x≥y, the circle is complete.
* Use plt.scatter(xes, yes, marker='o') to plot all the points stored in xes and yes, then show the plot using plt.show().