

How to Draw a Rasterized Circle

Here's some code that draws a circle centered at (0, 0) with radius = r. It proceeds by starting at the top of the circle and advancing clockwise 45 degrees and draws the other points symmetrically disposed around the 45 degree lines and the axes as it goes.

```
int x, y, xmax, y2, y2_new, ty;

xmax = (int) (radius * 0.70710678); // maximum x at radius/sqrt(2)

y = r;
y2 = y * y;
ty = (2 * y) - 1;
y2_new = y2;

for (x = 0; x <= xmax; x++) {
    if ((y2 - y2_new) >= ty) {
        y2 -= ty;
        y -= 1;
        ty -= 2;
    }
    set_pixel (x, y);
    set_pixel (x, -y);
    set_pixel (-x, y);
    set_pixel (-x, -y);
    set_pixel (y, x);
    set_pixel (y, -x);
    set_pixel (-y, x);
    set_pixel (-y, -x);

    y2_new -= (2 * x) - 3;
}
```