BRESENHAM CIRCLE

```
#include<stdio.h>
#include<math.h>
#include<GL/glut.h>

int xc = 320, yc = 240;

void plot_point(int x, int y){
	glBegin(GL_POINTS);
	glVertex2i(xc+x, yc+y);
	glVertex2i(xc+x, yc-y);
	glVertex2i(xc+y, yc+x);
	glVertex2i(xc+y, yc-x);
	glVertex2i(xc-x, yc-y);
	glVertex2i(xc-x, yc+y);
	glVertex2i(xc-y, yc-x);
	glVertex2i(xc-y, yc+x);
	glEnd();
}

void bresenham_circle(int r){
	int x = 0, y = r;
	float pk =(5.0, 4.0)-r;

	plot_point(x,y);
	int k;
	while (x<y){
		x = x+1;
		if(pk<0)
		pk = pk + 2*x+1;
		else{
			y = y-1;
			pk = pk + 2*(x-y)+1;
		}
		plot_point(x,y);
	}
	glFlush();
}

void concentric_circles(void){
	glClear(GL_COLOR_BUFFER_BIT);

	int radius = 200;
	bresenham_circle(radius);
}

void Init(){
	glClearColor(1.0,1.0,1.0,0);
	glColor3f(5.0,0.0,7.0);
```

```
        gluOrtho2D(0,640,0,480);
}

int main(int argc, char **argv){
        glutInit(&argc, argv);
        glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
        glutInitWindowPosition(0,0);
        glutInitWindowSize(640, 480);
        glutCreateWindow("bresenham_circle");
        Init();
        glutDisplayFunc(concentric_circles);
        glutMainLoop();
}
```