

PRACTICAL 4:

AIM: Write a Program to draw a Circle using Midpoint Circle Algorithm.

Source Code:

```
#include<stdio.h>
#include<conio.h>
#include<graphics.h>

void drawcircle(int x0, int y0, int radius)
{
    int x = radius;
    int y = 0;
    int err = 0;

    while (x >= y){
        putpixel(x0 + x, y0 + y, 7);
        printf("%d\t%d\n",x0+x,y0+y);
        putpixel(x0 + y, y0 + x, 7);
        printf("%d\t%d\n",x0+y,y0+x);
        putpixel(x0 - y, y0 + x, 7);
        printf("%d\t%d\n",x0 - y,y0+x);
        putpixel(x0 - x, y0 + y, 7);
        putpixel(x0 - x, y0 - y, 7);
        putpixel(x0 - y, y0 - x, 7);
        putpixel(x0 + y, y0 - x, 7);
        putpixel(x0 + x, y0 - y, 7);
        if (err <= 0){
            y += 1;
            err += 2*y + 1;
        }

        if (err > 0){
            x -= 1;
            err -= 2*x + 1;
        }
    }
}

void main()
{
    int gdriver=DETECT, gmode, error, x, y, r;
    initgraph(&gdriver, &gmode, "c:\\turboc3\\bgi");
```

```
printf("Enter radius of circle: ");  
scanf("%d", &r);  
  
printf("Enter co-ordinates of center(x and y): ");  
scanf("%d%d", &x, &y);  
drawcircle(x, y, r);  
delay(50000);  
closegraph();  
getch();  
}
```

Output: