

## **Internal Lab**

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Section : 3CS C

Subject : Computer Graphics Lab (RCS 653)

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**Aim** :- WAP in C to create a circle using Mid-Point circle algorithm.

**Code** :-

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

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

```
// function for drawing circle
```

```
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);
```

```
        putpixel(x0 + y, y0 + x, 7);
```

```
        putpixel(x0 - y, y0 + x, 7);
```

```

        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;
    }
}
}

//***** Main Function Starts here *****

int main()
{
    int gd=DETECT, gm, error,x,y,r;
    initgraph(&gd, &gm, "");

```

```
printf("\n*****\n");  
printf("\t Name - Sandeep Kumar Shukla \n\t RollNo. - 1729010140 \n\t 3CS  
C \n");  
printf("\t Internal Lab \n\t Computer Graphics (RCS 653)\n ");  
printf("\n\n\t P-3: WAP in C to create a circle using Mid-Point circle  
algorithm. \n\n");  
printf("\n*****\n");  
printf("\nEnter radius of circle: ");  
scanf("%d", &r);  
printf("Enter co-ordinates of center(x and y): ");  
scanf("%d%d", &x, &y);  
  
drawcircle(x, y, r); //Calling drawcircle() function by giving parameter.  
  
getch();  
closegraph();  
  
return 0;  
}
```

## Output :-

```
C:\Users\Sandeep\Desktop\LAB Program\ComputerGraphics\CG_LAB3_WORK\MidPointCircle_LAB3.exe

*****
Name - Sandeep Kumar Shukla
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3CS C
Internal Lab
Computer Graphics (RCS 653)

P-3: WAP in C to create a circle using Mid-Point circle algorithm.

*****
Enter radius of circle: 50
Enter co-ordinates of center(x and y): 150 150
```

