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Section: B

Set: B

Qno 3

Algorithm

- if $d <= 0$ then $Nx+1, yx+1, y$ is to be to be Chosen as next pixel.
- if $d > 0$ then $Sx+1, y-1 x+1, y-1$ is to be Chosen as the next pixel.

Step 1: Get the coordinates of the center of the Circle and radius and store them in x, y and R Respectively. Set $P = 0$ and $Q = R$

Step 2: Set decision parameter $D = 3 - 2R$

Step 3: Repeat through Step 8 while $P \leq Q$.

Step 4: Call draw circle x, P, y, P, Q, x, y, P, Q

Step 5: Increment the value of P

Step 6: If $D < 0$ then $D = D + 4P - 6$

Step 7: Else Set $R = R - 1$ $D = D + 4P - 4Q - 0 + 10$

Step 8: Call draw Circle x, y, P, Q, x, y, P, Q.

Source Code

```
#include <stdio.h>
#include <graphics.h>
void main()
{
    int gd = DETECT, gm;
    int x, y, p, xc = 320, yc = 240;
    printf("Enter the radius :");
    scanf("%d", &r);
    initgraph(&gd, &gm, "");

    x = 0;
    y = r;

    putpixel(xc+x, yc-y, 1);
    p = 3-(2*r);
    for(x=0; x<=y; x++)
    {
    if(p<0)
    {
      y = y;
      p = (p+(4*x)+6);
    }
    else
    {
     y = y-1;
     p = p+((4*(x-y)+10));
    }
     putpixel(xc+x, yc-y, 1);
    putpixel(xc-x, yc-y, 2);
     putpixel(xc+x, yc+y, 3);
     putpixel(xc+x, yc+y, 4);
     putpixel(xc+y, yc-x, 5);
```

```
putpixel(xc-y, yc-x, 6);
putpixel(xc+y, yc+x, 7);
putpixel(xc-y, yc+x, 8);
}
getch();
closegraph();
}
```

```
Enter radius of circle
70
```