

```

1  #include<bits/stdc++.h>
2  #include<graphics.h>
3  using namespace std;
4  void displayEllipse(int xc, int yc, int x, int y)
5  {
6      putpixel(xc+x,yc+y,WHITE);
7      putpixel(xc+x,yc-y,WHITE);
8      putpixel(xc-x,yc+y,WHITE);
9      putpixel(xc-x,yc-y,WHITE);
10 }
11 void myEllipse(int xc, int yc, int a, int b)
12 {
13     int x = a;
14     int y = 0;
15     displayEllipse(xc,yc,x,y);
16     int asq = pow(a,2);
17     int bsq = pow(b,2);
18     int d = asq + bsq*(.25-a);
19     int dn1 = 3 * asq;
20     int dnw1 = (3 * asq + 2 * bsq * (1-a));
21     while(abs(x*bsq) >= abs (y*asq))
22     {
23         if(d<=0)
24         {
25             d += dn1;
26             dn1 += 2*asq;
27             dnw1 += 2*asq;
28         }
29         else
30         {
31             d += dnw1;
32             dn1 += 2*asq;
33             dnw1 += (2*asq + 2*bsq);
34             x--;
35         }
36         y++;
37         displayEllipse(xc,yc,x,y);
38     }
39     int d2 = bsq*(pow((x-1),2)) + asq*(pow((y+.5),2)) - asq*bsq;
40     int dnw2 = bsq*(-2*x + 3) + asq*(2*y+2);
41     int dw2 = bsq*(-2*x+3);
42     while(x>=0)
43     {
44         if(d2<=0)
45         {
46             d2 += dnw2;
47             dnw2 += 2*(asq+bsq);
48             dw2 += 2*bsq;
49             y++;
50         }
51         else
52         {
53             d2 += dw2;
54             dnw2 += 2*bsq;
55             dw2 += 2*bsq;
56         }
57         x--;
58         displayEllipse(xc,yc,x,y);
59     }
60 }
61 int main()
62 {
63     int gdriver = DETECT, gmode;
64     initgraph(&gdriver, &gmode, NULL);
65     myEllipse(100,100,90,40);
66     getch();
67     closegraph();
68 }
69

```