INPUT

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

void symmetry(double xc, double yc, double x, double 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-y, yc-x);
  glVertex2i(xc-x, yc+y);
  glVertex2i(xc-y, yc+x);
  glEnd();
 }

 void circle(double x1, double y2, double r)
 {
  int x=0, y=r;
  float pk=(5.0/4.0)-r;
      //Plot the points
  symmetry(x1, y2, x, y); // Plot first point
  int k;
  while (x<y) //Find the vertices till x=y
   {
    x=x+1;
     if(pk<0)
```

```
    pk=pk+4*x+6;
    else
     {
      y=y-1;
      pk=pk+4*(x-y)+10;
     }
     symmetry(x1, y2, x, y);
  }
  glFlush();
}

void display()
 {
  circle(200, 200, 120);
 }

 void Init(void)
{
 glClearColor(1.0, 1.0, 1.0, 0.0);
 glColor3f(1, 1, 1);
 glPointSize(2.0);
 glMatrixMode(GL_PROJECTION);
 glLoadIdentity();
 gluOrtho2D(0.0, 640.0, 0.0, 480.0);
}

int main(int argc, char**argv)
{
  glutInit(&argc, argv);
  glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
```

```
  glutInitWindowSize(640, 480);
  glutInitWindowPosition(100, 150);
  glutCreateWindow("Circle");
  glutDisplayFunc(display);
  Init();
  glutMainLoop();
 return 0;
}
```

Output