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Class: SE IT A

# ASSIGNMENT NO: 3

CODE:

#include <iostream> using namespace std; #include <GL/glut.h>

double xc, yc, r, x=0, y=0;

void myInit() {

glClearColor(1.0,1.0,1.0,0); glColor3f(0.0,0.0,0.0); glPointSize(4.0);

gluOrtho2D(-320 , 320 , -240 , 240);

}

void Symmetry(double x, double y, double xc, double yc)

{

glVertex2d(x+xc,y+yc); glVertex2d(-x+xc,y+yc); glVertex2d(x+xc,-y+yc); glVertex2d(-x+xc,-y+yc); glVertex2d(y+yc,x+xc); glVertex2d(y+yc,-x+xc); glVertex2d(-y+yc,x+xc);

glVertex2d(-y+yc,-x+xc);

}

void Mycircle(double r, double xc, double yc){

1. = 0;
2. = r;

double sum = 3 - 2\*r;

while (y >= x)

{

if (sum <= 0)

{

|  |  |
| --- | --- |
|  | sum = sum + 4\*x + 6; |
|  | x = x + 1; |
| }  else  { | y = y; |
|  | sum = sum + 4\*x- 4\*y + 10; |
|  | x = x + 1; |
|  | y = y - 1; |

}

Symmetry(x, y, xc, yc);

}

}

void myMouse(int button, int state, int x, int y)

{

if(state == GLUT\_DOWN)

{

if(button == GLUT\_LEFT\_BUTTON)

{

glBegin(GL\_LINES); glVertex2d(320,0); glVertex2d(-320,0); glVertex2d(0,240);

glVertex2d(0,-240);

glEnd(); glFlush();

}

}

}

void MyDisplay()

{ glClear(GL\_COLOR\_BUFFER\_BIT | GL\_DEPTH\_BUFFER\_BIT);

glBegin(GL\_POINTS); Mycircle(r, xc, yc); glEnd();

}

int main(int argc, char \*\*argv)

{

cout << "Enter X and Y co-ordinate of centre\n";

cin >> xc >> yc;

cout << "Enter Radius of circle: ";

cin >> r;

glutInit(&argc,argv);

glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowPosition(0,0); glutInitWindowSize(640,480);

glutCreateWindow("Sample"); myInit(); glutMouseFunc(myMouse); glutDisplayFunc(MyDisplay);

glutMainLoop(); }

OUTPUT:

