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**SE IT**

**Roll No.47**

**CG Lab**

**Assignment No.4 : Bresenham Circle**

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**#include <GL/gl.h>**

**#include <GL/glut.h>**

**#include <iostream>**

**using namespace std;**

**float x, y, xi,yi,r;**

**void display(void){**

**int x=0, y=r, d=3-2\*r;**

**glBegin(GL\_POINTS);**

**glVertex2i(xi, yi);**

**glEnd();**

**glBegin(GL\_LINES);//show axes**

**glVertex2f(200.0f, 0.0f);**

**glVertex2f(-200.0f, 0.0f);**

**glVertex2f(0.0f, -200.0f);**

**glVertex2f(0.0f, 200.0f);**

**glEnd();**

**glBegin(GL\_POINTS);**

**while(x<=y)**

**{**

**glVertex2i(xi+x, yi+y);**

**glVertex2i(xi+y, yi+x);**

**glVertex2i(xi-x, yi+y);**

**glVertex2i(xi-x, yi-y);**

**glVertex2i(xi-y, yi+x);**

**glVertex2i(xi-y, yi-x);**

**glVertex2i(xi+y, yi-x);**

**glVertex2i(xi+x, yi-y);**

**if(d<0)**

**d=d+(4\*x)+6;**

**else{**

**d=d+(4\*(x-y))+10;**

**y--;**

**}**

**x++;**

**}**

**glEnd();**

**//if((int(x)% 20) < 8)**

**glFlush();**

**}**

**void init(void)**

**{**

**glClear(GL\_COLOR\_BUFFER\_BIT);**

**gluOrtho2D(-200, 200, -200, 200);**

**}**

**/\* run this program using the console pauser or add your own getch, system("pause") or input loop \*/**

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

**cout<< "Enter (xi, yi)\n";**

**cin>>xi;**

**cin>>yi;**

**cout<< "Enter radius\n";**

**cin>>r;**

**glutInit(&argc, argv);**

**glutInitDisplayMode(GLUT\_SINGLE|GLUT\_RGB);**

**glutInitWindowSize(500, 500);**

**glutInitWindowPosition(100,100);**

**glutCreateWindow("DDA Line Algo");**

**init();**

**glutDisplayFunc(display);**

**glutMainLoop();**

**return 0;**

**}**

**---------------------------- OUTPUT ------------------------------**

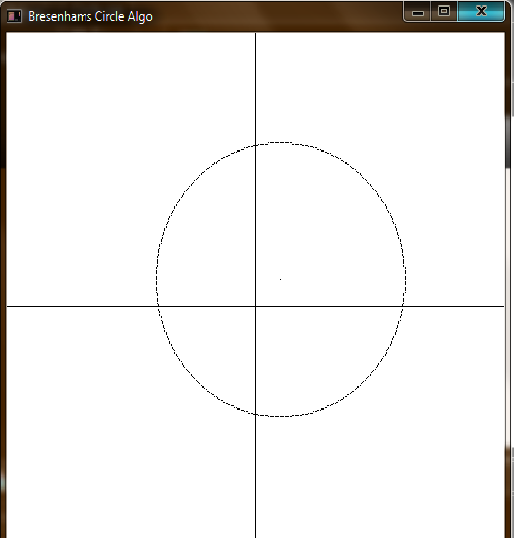
**Enter (xi, yi) :-**

**20**

**20**

**Enter radius :-**

**100**

****