Experiment No 3

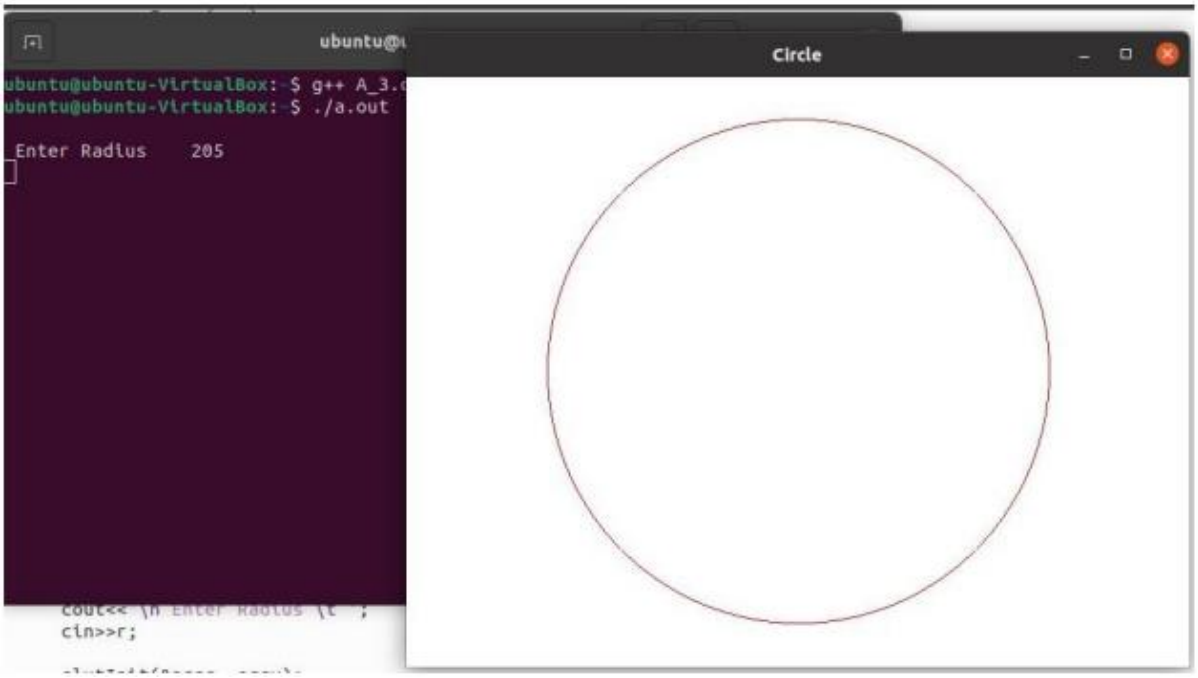
Title Implement Bresenham circle drawing algorithm to draw any object. The object should be displayed in all the quadrants with respect to center and radius

```
#include<GL/glut.h>
#include<iostream>
using namespace std;
int r;
void E_way(int x, int y){
 glBegin(GL_POINTS);
 glVertex2i(x+320,y+240);
 glVertex2i(y+320,x+240);
 glVertex2i(y+320, -x+240);
 glVertex2i(x+320, -y+240);
 glVertex2i(-x+320,-y+240);
 glVertex2i(-y+320,-x+240);
 glVertex2i(-y+320,x+240);
 glVertex2i(-x+320,y+240);
 glEnd();
 glFlush();
}
void B_circle(){
 float d;
 d = 3 - 2*r;
 int x,y;
 x = 0 ;
 y = r ;
 do{
 E_way(x,y);
 if(d<0){
 d=d+4*x+6;
 }
 else{
```

```
 d= d+4*(x-y)+10;
 y=y-1;
 }
 x=x+1;
 }while(x<y);
}
void init(){
 glClearColor(1,1,1,0);
 glColor3f(1,0,0);
 gluOrtho2D(0,640,0,480);
 glClear(GL_COLOR_BUFFER_BIT);
}
int main(int argc, char **argv){
 cout<<"\n Enter Radius \t ";
 cin>>r;
 glutInit(&argc, argv);
 glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
 glutInitWindowPosition(100,100);
 glutInitWindowSize(640,480);
 glutCreateWindow("Circle");
 init();
 glutDisplayFunc(B_circle);
 glutMainLoop();
 return 0;
}
```

OUTPUT

```
g++ filename.cpp -lGL -lGLU -lglut
./a.out
```


ubuntu@ubuntu-VirtualBox: $ g++ A_3.
ubuntu@ubuntu-VirtualBox: $ ./a.out
Enter Radius 205
Circle
cin>>r;