**Develop a program to draw a line using Bresenham’s line drawing technique**

#include<stdio.h>

#include<math.h>

#include<gl/glut.h>

GLint X1,Y1,X2,Y2;

void LineBres(void)

{

glClear(GL\_COLOR\_BUFFER\_BIT);

int dx=abs(X2-X1),dy=abs(Y2-Y1);

int p=2\*dy-dx;

int twoDy=2\*dy, twoDyDx=2\*(dy-dx);

int x,y;

if(X1>X2)

{

x=X2;

y=Y2;

X2=X1;

}

else

{

x=X1;

y=Y1;

X2=X2;

}

glBegin(GL\_POINTS);

glVertex2i(x,y);

while(x<X2)

{

x++;

if(p<0)

p+=twoDy;

else

{

y++;

p+=twoDyDx;

}

glVertex2i(x,y);

}

glEnd();

glFlush();

}

void Init()

{

glClearColor(1.0,1.0,1.0,0);

glColor3f(0.0,0.0,0.0);

glPointSize(4.0);

glViewport(0,0,50,50);

glMatrixMode(GL\_PROJECTION);

glLoadIdentity();

gluOrtho2D(0,50,0,50);

}

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

{

printf("enter two points for draw lineBresenham:\n"); printf("\n enter point1(X1,Y1):");

scanf\_s("%d%d",&X1,&Y1);

printf("\n enter point2(X2,Y2):");

scanf\_s("%d%d",&X2,&Y2);

glutInit(&argc,argv);

glutInitDisplayMode(GLUT\_SINGLE | GLUT\_RGB);

glutInitWindowSize(300,400);

glutInitWindowPosition(0,0);

glutCreateWindow("LineBresenham");

Init();

glutDisplayFunc(LineBres);

glutMainLoop();

}

 