**EXPERIMENT NO: 2**

**BRESENHAM LINE DRAWING ALGORITHM**

#include<stdio.h>

#include<graphics.h>

#include<conio.h>

#include<math.h>

void main()

{

int gm=DETECT,gd;

initgraph(&gm,&gd,"");

int x1,y1,x2,y2;

printf("Enter the coordinates");

scanf("%d%d",&x1,&y1);

printf("Enter the second coordinates");

scanf("%d%d",&x2,&y2);

int dx=x2-x1;

int dy=y2-y1;int steps;

if(abs(dx)>abs(dy)) steps=abs(dx) ;

else steps =abs(dy);

if(abs(dx)>abs(dy))

{

putpixel(x1,y1,WHITE);

int p0=2\*dy-dx;

int x=x1,y=y1;

for(int i=0;i<steps;i++)

{

if(p0<0)

{

x=x+(dx/abs(dx)) ;

y=y;

p0=p0+2\*dy;

}

else {

x=x+(dx/abs(dx));

y=y+(dy/abs(dy));

p0=p0+2\*dy-2\*dx;

}

putpixel(x,y,WHITE);

}

}

else {

putpixel(x1,y1,WHITE);

int p0=2\*dy-dx;

int x=x1,y=y1;

for(int i=0;i<steps;i++)

{

if(p0<0)

{

x=x ;

y=y+(dy/abs(dy));

p0=p0+2\*dy;

}

else {

x=x+(dx/abs(dx));

y=y+(dy/abs(dy));

p0=p0+2\*dx-2\*dy;

}

putpixel(x,y,WHITE);

}

}

getch();

closegraph();

}

**OUTPUT**

