**PROGRAM 3**

**Write a program to draw a line using Bresenham line drawing algorithm (Mid-point line drawing algorithm).**

#include<stdio.h>

#include<stdlib.h>

#include<graphics.h>

void bresline(int x1, int y1, int x2, int y2)

{

int twody = 2\*abs(y2-y1);

int dx = abs(x2-x1);

int p = twody-dx;

int x, y, xend, ystep=1;

int twodydx= twody - 2\*dx;

if(x1>x2)

{

x=x2;

y=y2;

xend=x1;

if(y2>y1) ystep=-1;

}

else

{

x=x1;

y=y1;

xend=x2;

if(y1>y2) ystep=-1;

}

putpixel(x,y,15);

while(x<xend)

{

x++;

if(p<0)

{

p+=twody;

}

else

{

y+=ystep;

p+=twodydx;

}

putpixel(x,y,15);

}

}

int main()

{

int x1, x2, y1, y2;

int gdriver = DETECT, gmode, errorcode;

initgraph(&gdriver, &gmode, "..\\");

errorcode = graphresult();

if (errorcode != grOk)

{

printf("Graphics error: %s\n", grapherrormsg(errorcode));

printf("Press any key to halt:");

getch();

exit(1);

}

printf("Enter start point\n");

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

printf("Enter end point\n");

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

bresline(x1, y1, x2, y2);

getch();

closegraph();

return 0;

}

**OUTPUT 3**



