**Program 3**

**Write a program to draw a thick line.**

#include<stdio.h>

#include<stdlib.h>

#include<graphics.h>

#define ROUND(a) ((int)(a+0.5))

void setpixel(int x, int y, int X, int Y)

{

putpixel(x,y,15);

putpixel(x+X,y+Y,15);

putpixel(x-X,y-Y,15);

}

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

{

float xsteps, ysteps, x=x1, y=y1;

int X=0, Y=0;

int dx = x2-x1;

int dy = y2-y1;

int steps,k=1;

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

{

steps=abs(dx);

Y=1;

}

else

{

steps=abs(dy);

X=1;

}

xsteps= dx/(float)steps;

ysteps= dy/(float)steps;

setpixel(ROUND(x),ROUND(y),X,Y);

while(k<=steps)

{

x+=xsteps;

y+=ysteps;

setpixel(ROUND(x), ROUND(y),X,Y);

k++;

}

}

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);

thickline(x1, y1, x2, y2);

getch();

closegraph();

return 0;

}



