#include<graphics.h>

#include<conio.h>

#include<stdio.h>

#include<math.h>

#include<dos.h>

void main() {

int gd=DETECT,gm;

initgraph(&gd,&gm,"..//bgi");

int x1,y1,x2,y2,steps,n,w,i,wn,j;

float xincr,yincr,xi,yi;

do {

printf("Enter choice:\n1.Simple\t2.Dotted\t3.Dash\t4.Thick\n");

scanf("%d",&n);

printf("Enter x1 and y1:\n");

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

printf("Enter x2 and y2:\n");

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

putpixel(x1,y1,WHITE);

switch(n) {

case 1:

if(abs(x2-x1)>=abs(y2-y1))

steps = abs(x2-x1);

else

steps = abs(y2-y1);

xincr = (x2-x1)/steps;

yincr = (y2-y1)/steps;

xi = x1,yi = y1;

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

xi = xi + xincr;

yi = yi + yincr;

putpixel((int)(xi+0.5),(int)(yi+0.5),WHITE);

delay(500);

}

break;

case 2:

if(abs(x2-x1)>=abs(y2-y1))

steps = abs(x2-x1);

else

steps = abs(y2-y1);

xincr = (x2-x1)/steps;

yincr = (y2-y1)/steps;

xi = x1,yi = y1;

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

xi = xi + xincr;

yi = yi + yincr;

if(i%2==0)

putpixel((int)(xi+0.5),(int)(yi+0.5),WHITE);

delay(500);

}

break;

case 3:

if(abs(x2-x1)>=abs(y2-y1))

steps = abs(x2-x1);

else

steps = abs(y2-y1);

xincr = (x2-x1)/steps;

yincr = (y2-y1)/steps;

xi = x1,yi = y1;

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

xi = xi + xincr;

yi = yi + yincr;

if((i%10)<5)

putpixel((int)(xi+0.5),(int)(yi+0.5),WHITE);

delay(500);

}

break;

case 4:

printf("Enter the width\n");

scanf("%d",&w);

if(abs(x2-x1)>=abs(y2-y1))

steps = abs(x2-x1);

else

steps = abs(y2-y1);

xincr = (x2-x1)/steps;

yincr = (y2-y1)/steps;

if(w%2==1)

wn = (int)(w/2);

else

wn = w/2;

if(w%2==1) {

for(j=1;j<=wn;j++) {

putpixel(x1,y1+j,WHITE);

putpixel(x1,y1-j,WHITE);

}

}

else {

for(j=1;j<=wn-1;j++) {

putpixel(x1,y1+j,WHITE);

putpixel(x1,y1-j,WHITE);

}

}

xi = x1;

yi = y1;

putpixel(x1,y1+wn,WHITE);

for(i=1;i<=steps;i++) {

xi = xi + xincr;

yi = yi + yincr;

putpixel((int)(xi+0.5),(int)(yi+0.5),WHITE);

if(w%2==1) {

for(j=1;j<wn;j++) {

putpixel(xi,yi+j,WHITE);

putpixel(xi,yi-j,WHITE);

}

}

else {

for(j=1;j<wn-1;j++) {

putpixel(xi,yi+j,WHITE);

putpixel(xi,yi-j,WHITE);

}

}

delay(300);

}

break;

case 5:

printf("Thank you\n");

break;

default:

printf("Invalid choice\n");

break;

}

}while(n!=5);

getch();

closegraph();

}