//Assignment 5:Write a program to draw a line with line style(Thick,Thin,Dotted).

#include<stdio.h>

#include<graphics.h>

#include<conio.h>

#include<math.h>

#include<iostream.h>

class line1

{

public:

int x1,x2,y1,y2;

void thinline();

void thickline();

void dottedline();

};

void line1 :: thinline()

{

int i,dx,dy,e,x,y;

cout<<"Enter the pixel position:";

cin>>x1>>y1>>x2>>y2;

dx=abs(x2-x1);

dy=abs(y2-y1);

x=x1;

y=y1;

e=2\*dy-dx;

i=1;

do

{

putpixel(x,y,15) ;

if(e>=0)

{

y=y+1;

e=e-2\*dx;

}

x=x+1;

e=e+2\*dy;

i=i+1;

}while(i<=dx);

}

void line1::thickline()

{

int w=5;

int i,j,dx,dy,e,x,y;

cout<<"Enter the pixel position:";

cin>>x1>>y1>>x2>>y2;

dx=abs(x2-x1);

dy=abs(y2-y1);

x=x1;

y=y1;

e=2\*dy-dx;

i=1;

do

{

for(j=0;j<w;j++)

{

putpixel(x+j,y,15);

}

if(e>=0)

{

y=y+1;

e=e-2\*dx;

}

x=x+1;

e=e+2\*dy;

i=i+1;

}while(i<=dx);

}

void line1 :: dottedline()

{

int i,j,dx,dy,e,x,y;

cout<<"Enter the pixel position:";

cin>>x1>>y1>>x2>>y2;

dx=abs(x2-x1);

dy=abs(y2-y1);

x=x1;

y=y1;

e=2\*dy-dx;

i=1;

do

{

if((x%2)==0)

{

putpixel(x,y,15);

}

if(e>=0)

{

y=y+1;

e=e-2\*dx;

}

x=x+1;

e=e+2\*dy;

i=i+1;

}while(i<=dx);

}

void main()

{

line1 l;

clrscr();

int ch;

int gd=DETECT,gm;

initgraph(&gd,&gm,"c:\\tc\\bgi");

do

{

cout<<"\n1.thick line \n2.thick line\n3.dotted line";

cout<<"\n Enter your choice:";

cin>>ch;

switch(ch)

{

case 1:

l.thinline();

break;

case 2:

l.thickline();

break;

case 3:

l.dottedline();

break;

default:

cout<<"Invalid Choice";

}

}while(ch<=3);

getch();

closegraph();

}

\*\*\*\*\*\*\*\*\*\*\*\*OUTPUT\*\*\*\*\*\*\*\*\*\*\*\*

