#include<stdio.h>

#include<graphics.h>

#include<conio.h>

int x1,x2,y1,y2;

void solve(int m, int dx,int dy)

{

int p1,p2;

while(x1!=x2 && y1!=y2)

{

if(m<1)

{

p1 = 2\*dy - dx;

p2 = p1;

if(p1< 0)

{

x1 = x1 + 1;

y1 = y1;

p1 =p2 + 2\*dy;

}

else if(p1>=0)

{

x1 = x1 +1;

y1 = y1 +1;

p1 = p2 + 2\*dy - 2\*dx;

}

}

else if(m>=1)

{

p1 = 2\*dy - dx;

p2 = p1;

if(p1<0)

{

x1 = x1;

y1 = y1 + 1;

p1 =p2 + 2\*dx;

}

else if(p1>=0)

{

x1 = x1 +1;

y1 = y1 +1;

p1 = p2 + 2\*dx - 2\*dy;

}

}

putpixel(x1,y1,MAGENTA);

//line(x1,y1,x2,y2);

}

}

void find()

{

int m,dx,dy;

m = (y2 - y1)/(x2 -x1);

dx = x2 -x1;

dy = y2 -y1;

solve(m,dx,dy);

}

int main()

{

int gd=DETECT,gm;

initgraph(&gd,&gm,"D:\\TURBOC3\\bgi");

printf("Enter the first coordinates: ");

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

printf("Enter the Second coordinates: ");

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

putpixel(x1,y1,MAGENTA);

find();

getch();

closegraph();

return 0;

}