'''

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Subject:- Computer Graphics

i) Write a C++ program to implement Bresenham’s

line drawing algorithm to draw a dotted/dashed line.

Apply the concept of encapsulation.

'''

#include <iostream>

#include <graphics.h>

#include <math.h>

int sign(int x1, int x2)

{

if (x1 - x2 > 0)

return 1;

if (x1 - x2 < 0)

return -1;

return 0;

}

int main()

{

int gd=DETECT,gm;

initgraph(&gd,&gm,NULL);

int x1=200,y1=200,x2=350,y2=250,s1,s2;

int x=x1;

int y=y1;

int dx=abs(x2-x1);

int dy=abs(y2-y1);

s1=sign(x2,x1);

s2=sign(y2,y1);

int G,interchange,temp;

if (dy>dx)

{

temp=dx;

dx=dy;

dy=temp;

interchange=1;

}

else

interchange=0;

G=2\*dy-dx;

for (int i=1;i<dx;i++)

{

putpixel(x,y,YELLOW);

while(G>=0)

{

if (interchange==1 )

x=x+s1;

else

y=y+s2;

G = G-2\*dx;

}

if (interchange==1)

y=y+s2;

else

x=x+s1;

G=G+2\*dy;

}

delay(5000);

closegraph();

return 0;

}