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/*a) Write C++ program to draw the following pattern. Use DDA line and
Bresenham‘s circledrawing algorithm. Apply the concept of encapsulation.*/

 #include<iostream>
 #include<graphics.h>
 #include<stdio.h>
 void ddaAlg(int x1,int y1,int x2,int y2)
 {
 int dx=x2-x1;
 int dy=y2-y1;
 int steps=dx>dy?dx:dy;
 float xInc=dx/(float)steps;
 float yInc=dy/(float)steps;
 float x=x1;
 float y=y1;
 for(int i=0;i<=steps;i++)
 {
 putpixel(x,y,14);
 x+=xInc;
 y+=yInc;
 }
 }
 void display(int xc,int yc,int x,int y)
 {
 putpixel(xc+x, yc+y, 3);
 putpixel(xc-x, yc+y, 3);
 putpixel(xc+x, yc-y, 3);
 putpixel(xc-x, yc-y, 3);
 putpixel(xc+y, yc+x, 3);
 putpixel(xc-y, yc+x, 3);
 putpixel(xc+y, yc-x, 3);
 putpixel(xc-y, yc-x, 3);
 }
 void CircleB(int x1,int y1,int r)
 {
 int x=0,y=r;
 int d=3-2*r;
 display(x1,y1,x,y);
while(y>=x)
 {
 x++;
 if(d>0)
 {
 }
 else
 {
 y--;
 d=d+4*(x-y)+10;
 d=d+4*x+6;
 }
 display(x1,y1,x,y);
 }
 }
 int main()
 {
 int gd=DETECT, gm;
 initgraph(&gd,&gm,"c:\\turboc3\\bgi");
 CircleB(150,180,100);
 CircleB(150,180,100/2);
```

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ddaAlg(150,80,235,231);
ddaAlg(65,230,235,231);
ddaAlg(150,80,65,230);
getch();
return 0;
}
```