#include<iostream>

#include<graphics.h>

#include <bits/stdc++.h>

using namespace std;

class algo

{ public:

void dda\_line(float x1, float y1, float x2, float y2); void bresneham\_cir(int r);

};

void algo::dda\_line(float x1, float y1, float x2, float y2)

{

float x,y,dx,dy,step;

int i;

//step 2 dx=abs(x2-x1); dy=abs(y2-y1);

cout<<"dy="<<dy<<"\tdx="<<dx;

//step 3 if(dx>=dy) step=dx;

else step=dy;

cout<<"\n"<<step<<endl;

//step 4

float xinc=float((x2-x1)/step); float yinc=float((y2-y1)/step);

//step 5

x=x1; y=y1;

// outtextxy(0,0,"(0,0)");

//step 6

i=1; while(i<=step)

{

//cout<<endl<<"\t"<<i<<"\t(x,y)=("<<x<<","<<y<<")"; putpixel(320+x,240-y,4); x=x+xinc; y=y+yinc; i=i+1;

// delay(10);

}

}

void algo::bresneham\_cir(int r)

{ float x,y,p; x=0; y=r; p=3-(2\*r); while(x<=y)

{

putpixel(320+x,240+y,1); putpixel(320-x,240+y,2); putpixel(320+x,240-y,3); putpixel(320-x,240-y,5); putpixel(320+y,240+x,6); putpixel(320+y,240-x,7); putpixel(320-y,240+x,8); putpixel(320-y,240-x,9); x=x+1; if(p<0)

{

p=p+4\*(x)+6;

}

else

{

p=p+4\*(x-y)+10; y=y-1;

}

// delay(20);

}

}

int main()

{

algo a1;

int i;

float r,ang,r1; initwindow(630,480); cout<<"Enter radius of circle"; cin>>r; a1.bresneham\_cir((int)r); ang=3.24/180; float c=r\*cos(30\*ang); float s=r\*sin(30\*ang); a1.dda\_line(0,r,0-c,0-s); a1.dda\_line(0-c,0-s,0+c,0-s); a1.dda\_line(0+c,0-s,0,r); r1=s; a1.bresneham\_cir((int)r1); getch(); closegraph(); return 0;

}