#include<iostream.h>

#include<conio.h>

#include<graphics.h>

void outsq(int,int);

void insq(int,int);

void set(int);

int x,y,a=0;

main()

{

int n;

cout<<"enter number of telescopic squares: ";cin>>n;

if(n<=0) cout<<"invalid number...("<<n<<")"<<endl;

else{

int h=128;

y=240+h;

x=(640-2\*h)/2;

int gdriver=DETECT,gmode;

initgraph (&gdriver,&gmode,"c:\tc\bgi");

moveto(x,y);

outsq(n,h);

closegraph();}

return 6;

}

//end of main

void outsq(int n,int h)

{

 if(n==0) a-=90;

 else{

 setcolor(n);

 set(h); lineto(x,y);getch();

 a+=45;

 insq(n,h);

 a+=45; set(h) ; lineto(x,y);getch();

 a+=90; set(2\*h); lineto(x,y);

 a+=90; set(2\*h); lineto(x,y);

 a+=90; set(2\*h); lineto(x,y);getch();

 }//end of else

}

//end of drawing the outsider square

void insq(int n,int h)

{

 set(h); lineto(x,y);getch();

 a+=45;

 outsq(n-1,h/2);

 setcolor(n);

 a+=45; set(h) ; lineto(x,y);getch();

 a+=90; set(2\*h); lineto(x,y);

 a+=90; set(2\*h); lineto(x,y);

 a+=90; set(2\*h); lineto(x,y);getch();

}

//end of drawing the insider square

void set(int h)

{

 a=a%360;

 switch(a)

 {case 0 :{x+=h ; break;}

 case 45 :{x+=h/2; y-=h/2;break;}

 case 90 :{ y-=h ;break;}

 case 135:{x-=h/2; y-=h/2;break;}

 case 180:{x-=h ; break;}

 case 225:{x-=h/2; y+=h/2;break;}

 case 270:{ y+=h ;break;}

 case 315:{x+=h/2; y+=h/2;break;}

 }//end of switch

}//end of setting X & Y