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program treck;
uses crt,graph;
const
  n=35;
  ax=10;ay=10;
  bx=230;by=430;
var
  dr,md,i,x,y,dx,dy,r:integer;
procedure move;
var
  l,dx,dy,x1,y1:real;
  q:boolean;
begin
  x1:=0;
  y1:=0;
  q:=false;
  l:=sqrt(sqr(bx-x+0.0)+sqr(by-y+0.0));
  repeat
    dx:=(bx-x)/l;dy:=(by-y)/l;
    x1:=x1+dx;y1:=y1+dy;
    if abs(x1)>=1 then
      if getpixel(x+round(x1),y)=0 then
        begin
          x:=x+round(x1);
          putpixel(x,y,15);delay(25);putpixel(x,y,0);
          x1:=0;
        end
      else q:=true;
    if abs(y1)>=1 then
      if getpixel(x,y+round(y1))=0 then
        begin
          y:=y+round(y1);
          putpixel(x,y,15);delay(25);putpixel(x,y,0);
          y1:=0;
        end
      else q:=true;
    until q
  end;
procedure soround;
var
  k,n,p:integer;
function stenka:integer;
begin
  if getpixel(x,y+1)<>0 then stenka:=1
  else if getpixel(x+1,y)<>0 then stenka:=2
  else if getpixel(x,y-1)<>0 then stenka:=3
  else stenka:=4;
end;
function situation(n:integer):integer;
begin
  case n of
    1: if getpixel(x,y+1)=0 then situation:=1

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    else if getpixel(x+1,y)=0 then situation:=2
    else situation:=3;
2: if getpixel(x+1,y)=0 then situation:=1
    else if getpixel(x,y-1)=0 then situation:=2
    else situation:=3;
3: if getpixel(x,y-1)=0 then situation:=1
    else if getpixel(x-1,y)=0 then situation:=2
    else situation:=3;
4: if getpixel(x-1,y)=0 then situation:=1
    else if getpixel(x,y+1)=0 then situation:=2
    else situation:=3;
end;
end;
procedure move1(n:integer);
{to N}
begin
    putpixel(x,y,0);
    case n of
        1: y:=y+1;
        2: x:=x+1;
        3: y:=y-1;
        4: x:=x-1;
    end;
    delay(25);putpixel(x,y,15);
end;
procedure move2(n:integer);
{to n+1}
begin
    putpixel(x,y,0);
    case n of
        1: x:=x+1;
        2: y:=y-1;
        3: x:=x-1;
        4: y:=y+1;
    end;
    putpixel(x,y,15);delay(25);
end;
function turn90(n:integer):integer;
begin
    if n<4 then turn90:=n+1 else turn90:=1;
end;
begin
    n:=stenka;
    p:=1;
    repeat
        k:=situation(n);
        case k of
            1: begin
                move1(n);
                p:=p-1;
                n:=stenka;
            end;

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2: move2(n);
3: begin
  n:=turn90(n);
  p:=p+1;
  end;
end;
until p=0;
delay(25);putpixel(x,y,0);
end;
begin
randomize;
dr:=detect;initgraph(dr,md,"");
for i:=1 to n do
if i<>15 then
begin
setcolor(i);
setfillstyle(1,i);
x:=50+random(400);
y:=50+random(300);
dx:=2+random(100);
dy:=2+random(100);
r:=5+random(30);
rectangle(x,y,x+dx,y+dy);
floodfill(x+dx div 2,y+dy div 2,i);
{ circle(x,y,round(r));floodfill(x,y,i);}
end;
{setcolor(2);
rectangle(10,80,400,85);
setfillstyle(1,2);floodfill(12,82,2);}
setcolor(15);
setfillstyle(1,15);
circle(bx,by,2);floodfill(bx,by,15);
x:=ax;y:=ay;
repeat
  move;
  soround;
until (abs(x-bx)<3)and(abs(y-by)<3);
delay(1000);
end.

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