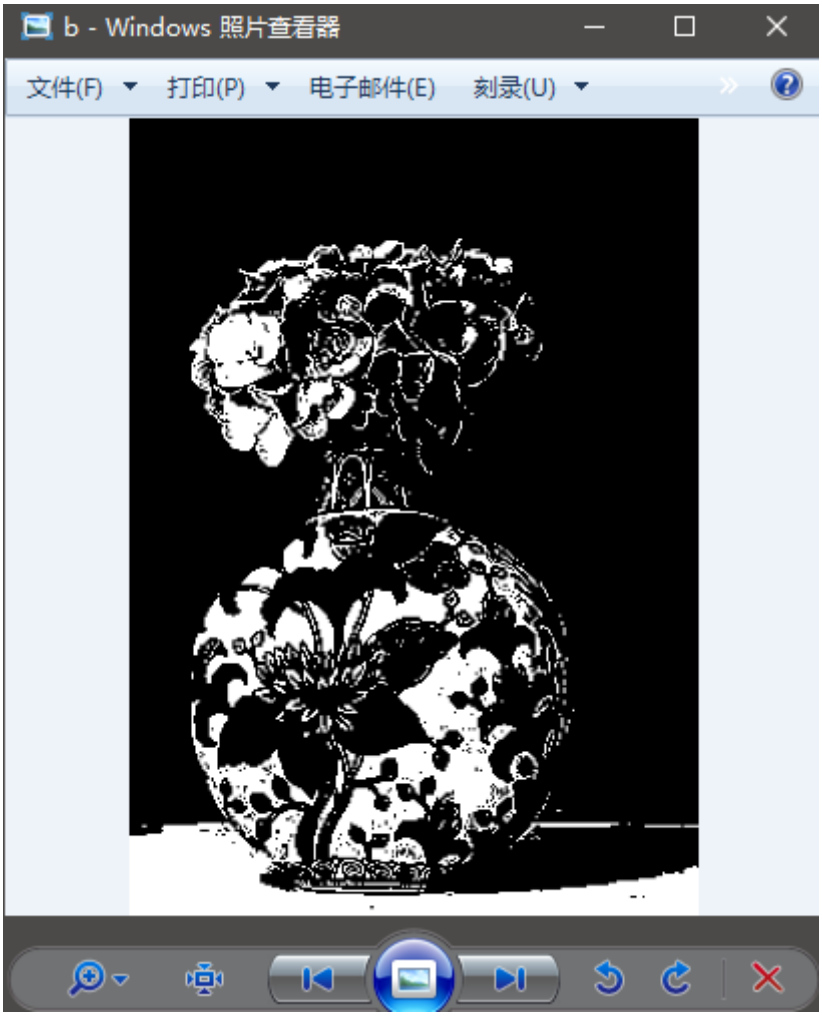
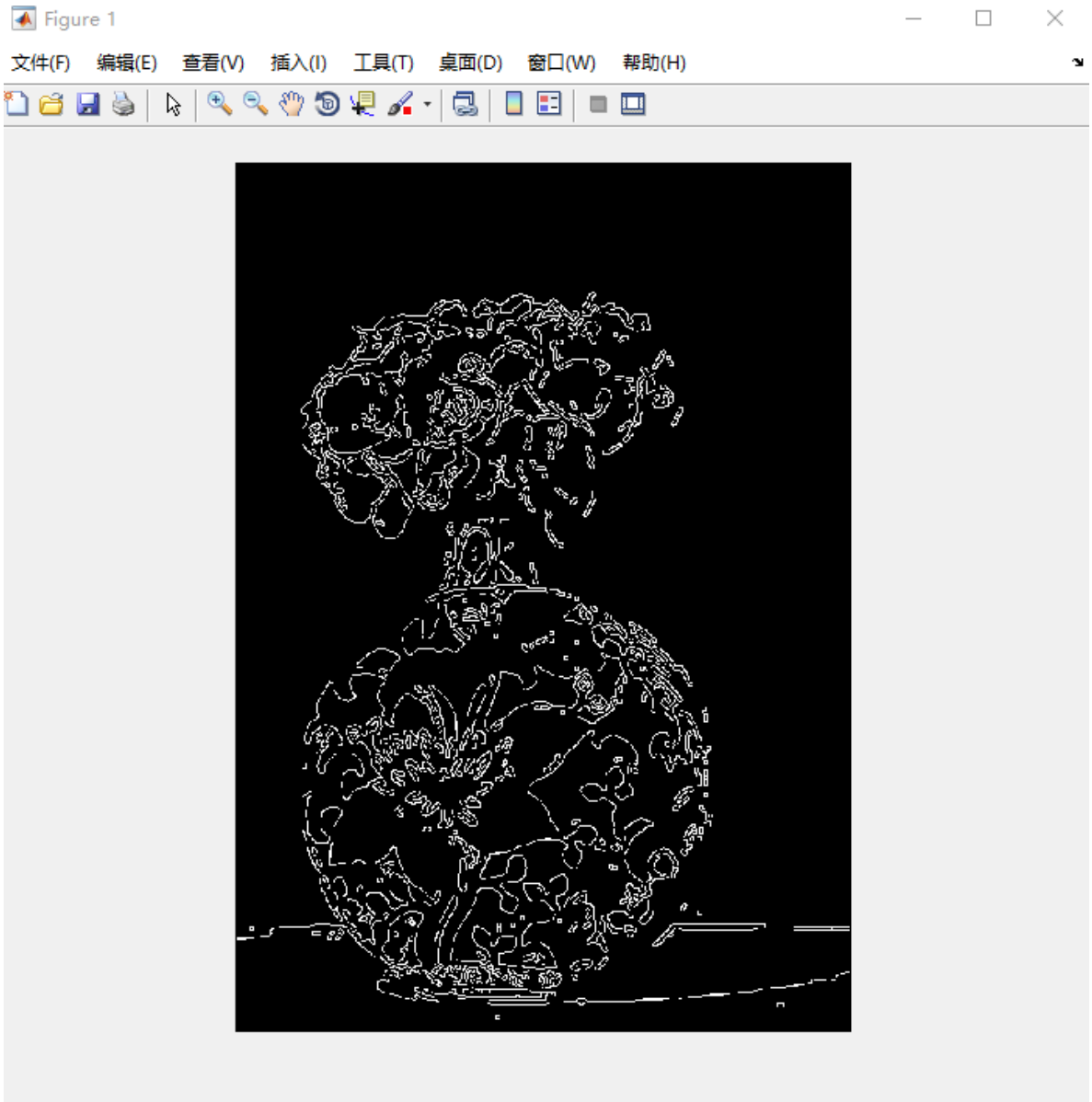
第9章

计创18-8-连月菡

1.c++/matlab编程实现 canny 算子进行边缘检测。

```
img = imread('C:\Users\yuehan lian\Desktop\b.tif');
ed = edge(img, 'canny', 0.5);
imshow(ed)
```





2. c++/matlab编程实现区域生长图像分割。

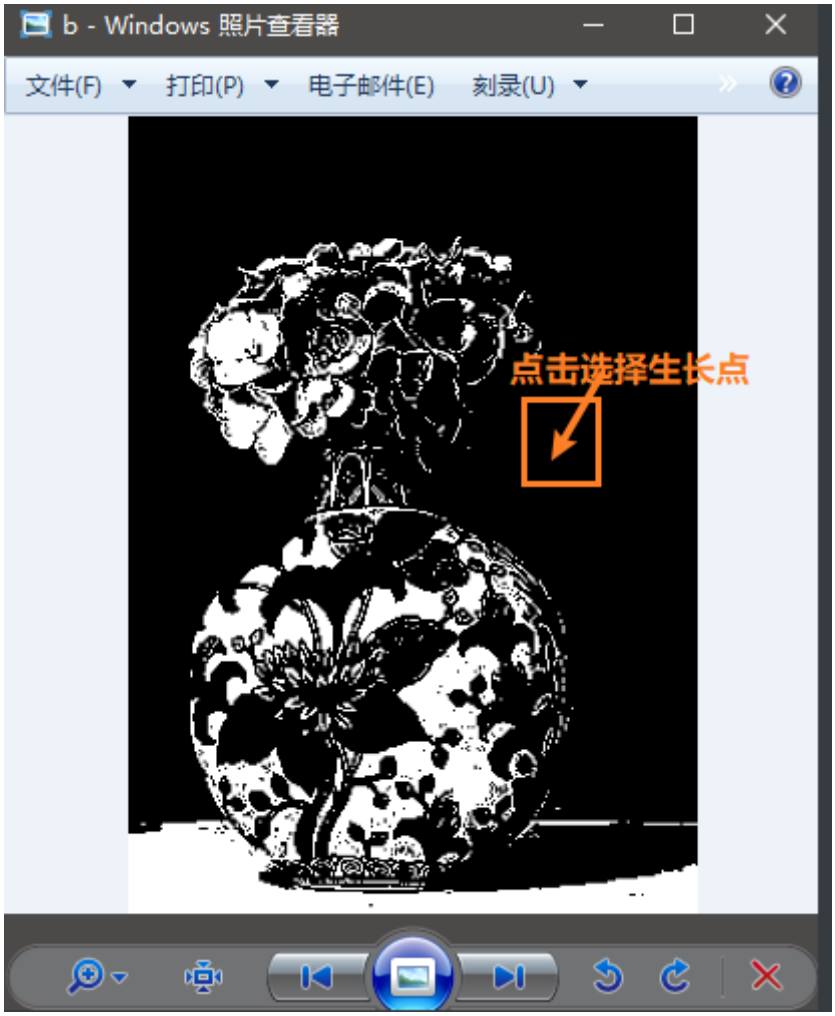
```
%读取图像，初始G用于保存分割后的文件
I = imread('C:\Users\yuehan lian\Desktop\b.tif');
if isinteger(I)
    I=im2double(I);
end

figure
imshow(I)
[M,N]=size(I);
[y,x]=getpts; %单击取点后，按enter结束
x1=round(x);
y1=round(y);
seed=I(x1,y1); %获取中心像素灰度值

J=zeros(M,N);
J(x1,y1)=1;

count=1; %待处理点个数
threshold=0.15;
while count>0
    count=0;
```

```
    for i=1:M %遍历整幅图像
    for j=1:N
        if J(i,j)==1 %点在“栈”内
        if (i-1)>1&&(i+1)<M&&(j-1)>1&&(j+1)<N %3*3邻域在图像范围内
            for u=-1:1 %8-邻域生长
            for v=-1:1
                if J(i+u,j+v)==0&&abs(I(i+u,j+v)-seed)<=threshold
                    J(i+u,j+v)=1;
                    count=count+1;  %记录此次新生长的点个数
                end
            end
            end
        end
        end
    end
    end
end
subplot(1,2,2),imshow(J);
title('segmented image')
```



segmented image