exp1.m

/MATLAB Drive/exp1.m

```
1   img = rgb2gray(imread('peppers.png'));
2   level=graythresh(img);
3   bw_global = imbinarize(img, level);
4   T = adaptthresh(img, 0.5);
5   bw_local = imbinarize(img, T);
6   subplot(1,3,1); imshow(img); title('Original');
7   subplot(1,3,2); imshow(bw_global); title('Global Threshold');
8   subplot(1,3,3); imshow(bw_local); title('Local Threshold');
9
10
11
```

exp1.m

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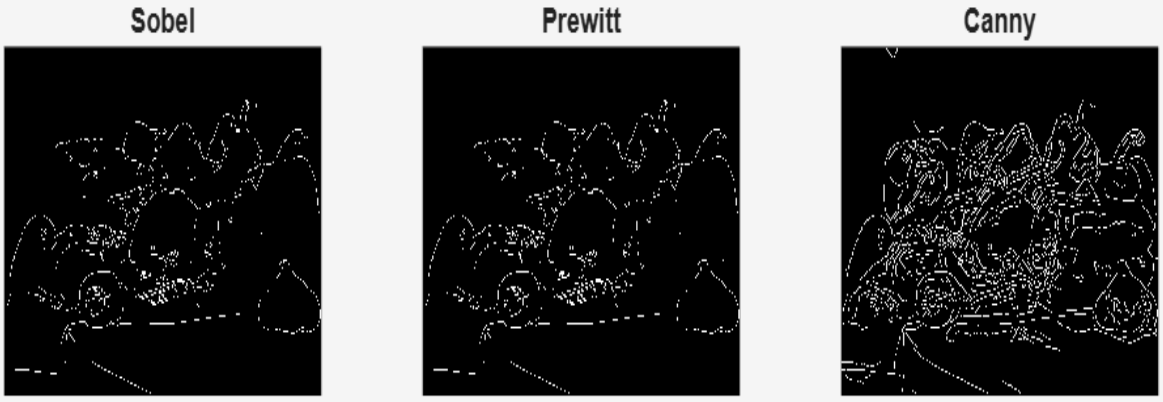
```
1   img = rgb2gray(imread('peppers.png'));
2   edge_sobel = edge(img, 'sobel');
3   edge_prewitt = edge(img, 'prewitt');
4   edge_canny = edge(img, 'canny');
5   subplot(1,3,1); imshow(edge_sobel); title('Sobel');
6   subplot(1,3,2); imshow(edge_prewitt); title('Prewitt');
7   subplot(1,3,3); imshow(edge_canny); title('Canny');
8
9
10
```



exp1.m

/MATLAB Drive/exp1.m

```
1  img = rgb2gray(imread('fabric.png'));
2  glcm = graycomatrix(img, 'Offset', [0 1]);
3  stats = graycoprops(glcm, {'Contrast','Correlation','Energy','Homogeneity'});
4  disp(stats);
5
6
7
```

Command Window

New to MATLAB? See resources for Getting Started.

```
>> exp1
>> exp1
>> exp1
       Contrast: 0.3089
    Correlation: 0.9102
         Energy: 0.1274
    Homogeneity: 0.8599

>>
```

exp1.m

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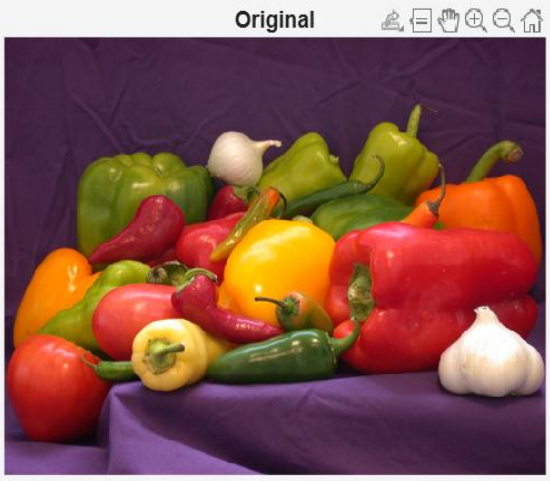
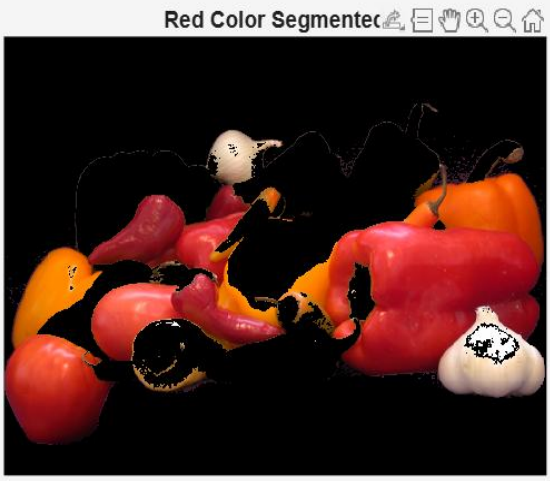
```
1  img = imread('peppers.png');
2  hsv_img = rgb2hsv(img);
3  H = hsv_img(:,:,1); % Hue component
4  mask = (H > 0.9 | H < 0.1); % Red color threshold
5  seg_img = bsxfun(@times, img, cast(mask, 'like', img));
6  subplot(1,2,1); imshow(img); title('Original');
7  subplot(1,2,2); imshow(seg_img); title('Red Color Segmented');
8
9
10
```

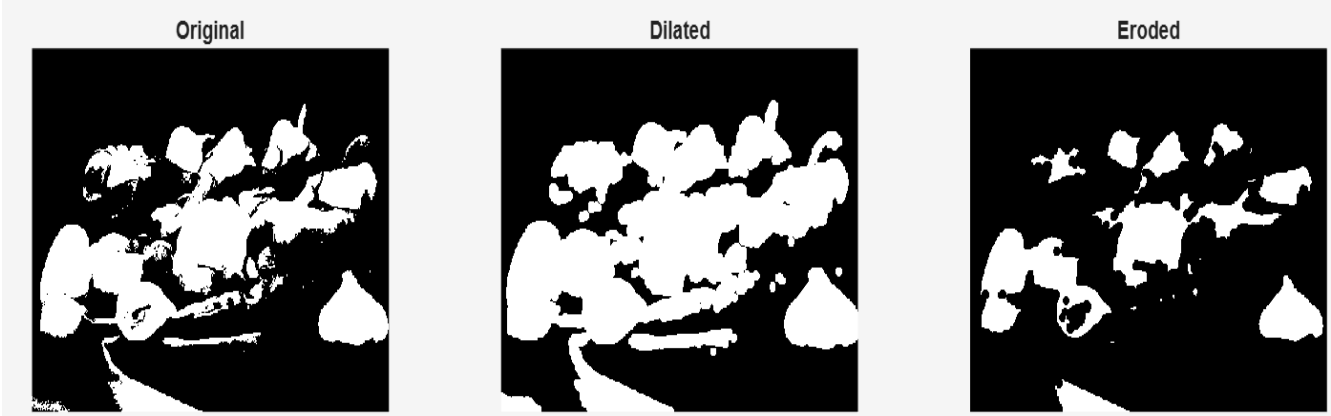




exp1.m

/MATLAB Drive/exp1.m

```
1   img = rgb2gray(imread('peppers.png'));
2   bw = imbinarize(img);
3   se = strel('disk', 5);
4   dilated = imdilate(bw, se);
5   eroded = imerode(bw, se);
6   subplot(1,3,1); imshow(bw); title('Original');
7   subplot(1,3,2); imshow(dilated); title('Dilated');
8   subplot(1,3,3); imshow(eroded); title('Eroded');
9
10
11
```



exp1.m

/MATLAB Drive/exp1.m

```
1  img = rgb2gray(imread('peppers.png'));
2  % Step 1: Gaussian filter
3  h = fspecial('gaussian', [5 5], 1);
4  smoothed = imfilter(img, h, 'replicate');
5  % Step 2: Gradient
6  [Gx, Gy] = imgradientxy(smoothed);
7  [Gmag, Gdir] = imgradient(Gx, Gy);
8  % Step 3: Threshold
9  threshold = 50;
10 edges = Gmag > threshold;
11 subplot(1,3,1); imshow(smoothed); title('Smoothed');
12 subplot(1,3,2); imshow(Gmag, []); title('Gradient Magnitude');
13 subplot(1,3,3); imshow(edges); title('Edge Map (Basic)');
14
15
```

exp1.m

/MATLAB Drive/exp1.m

```
1  fixed = rgb2gray(imread('peppers.png'));
2  moving = imrotate(fixed, 30, 'crop');
3  [optimizer, metric] = imregconfig('monomodal');
4  registered = imregister(moving, fixed, 'affine', optimizer, metric);
5  subplot(1,3,1); imshow(fixed); title('Fixed');
6  subplot(1,3,2); imshow(moving); title('Moving');
7  subplot(1,3,3); imshow(registered); title('Registered');
8
9
```