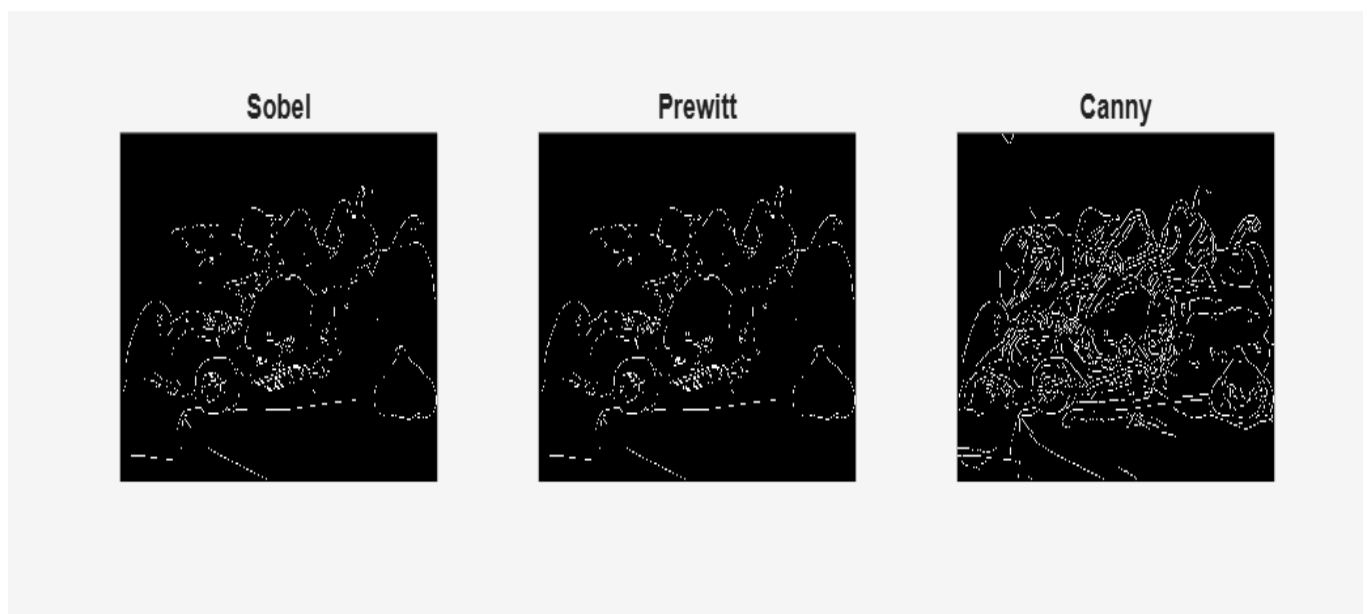
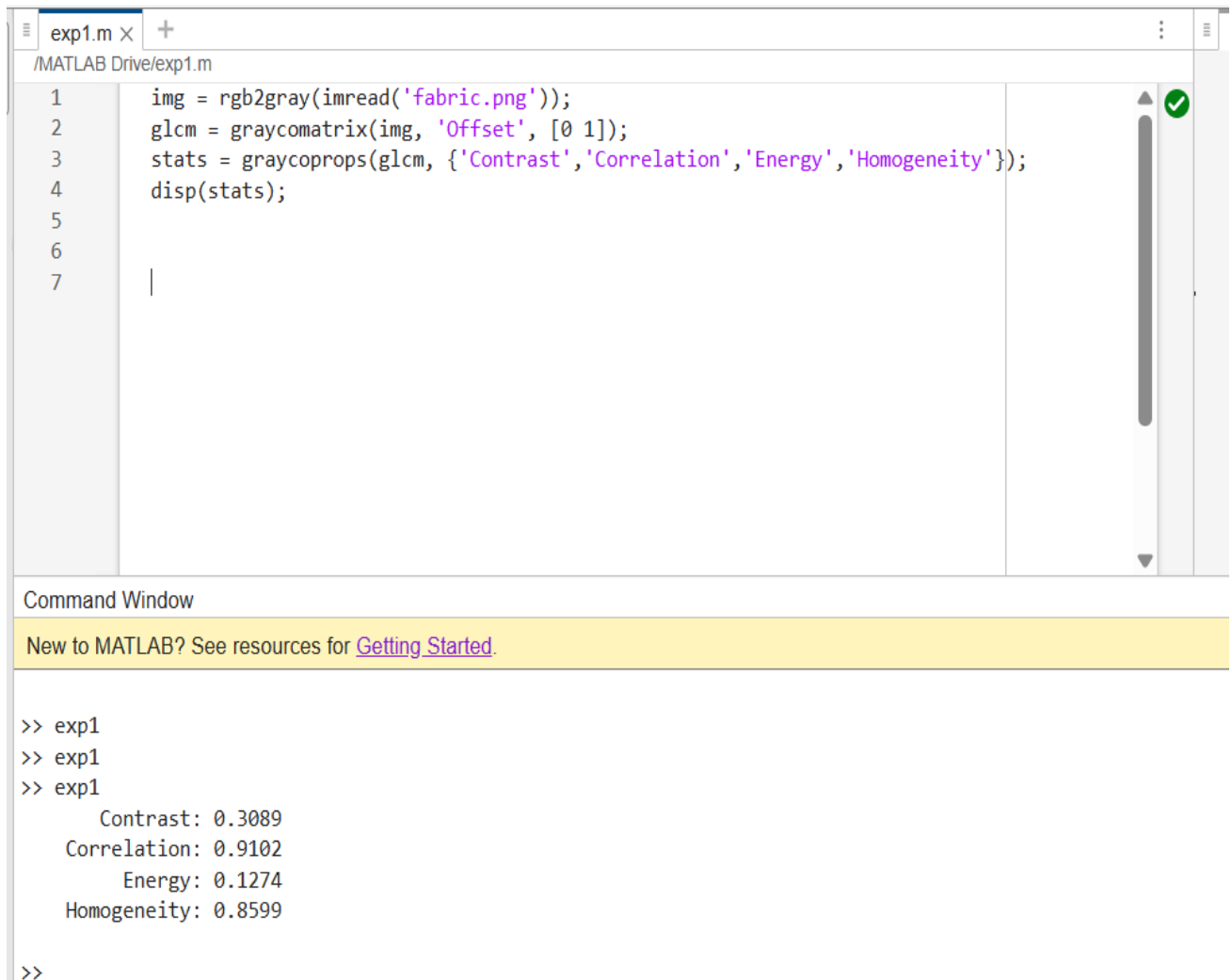


```
exp1.m × +
/MATLAB Drive/exp1.m
1  img = rgb2gray(imread('peppers.png'));
2  level=graythresh(img);
3  bw_global = imbinarize(img, level);
4  T = adapttthresh(img, 0.5);
5  bw_local = imbinarize(img, T);
6  subplot(1,3,1); imshow(img); title('Original');
7  subplot(1,3,2); imshow(bw_global); title('Global Threshold');
8  subplot(1,3,3); imshow(bw_local); title('Local Threshold');
9
10
11
```



```
exp1.m × +  
/MATLAB Drive/exp1.m  
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 |
```





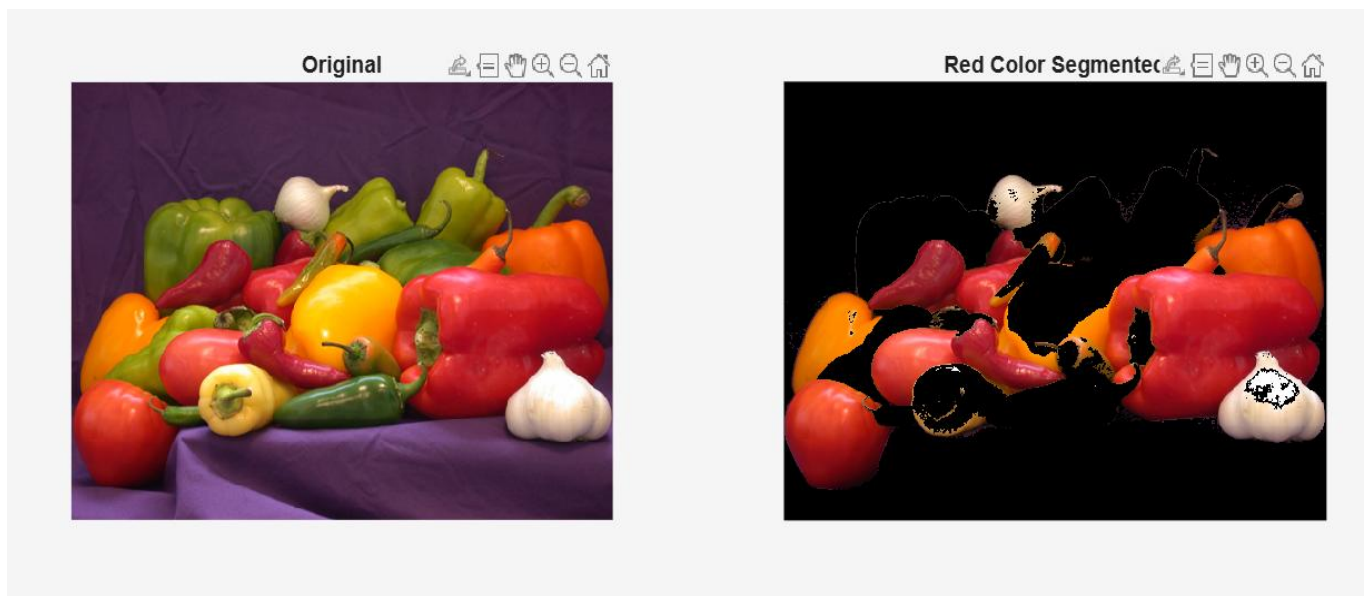
The image shows a MATLAB environment. At the top, there is a tab labeled 'exp1.m' with a close button and a plus sign. Below the tab, the file path '/MATLAB Drive/exp1.m' is displayed. The main editor area contains a script with the following code:

```
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  |
```

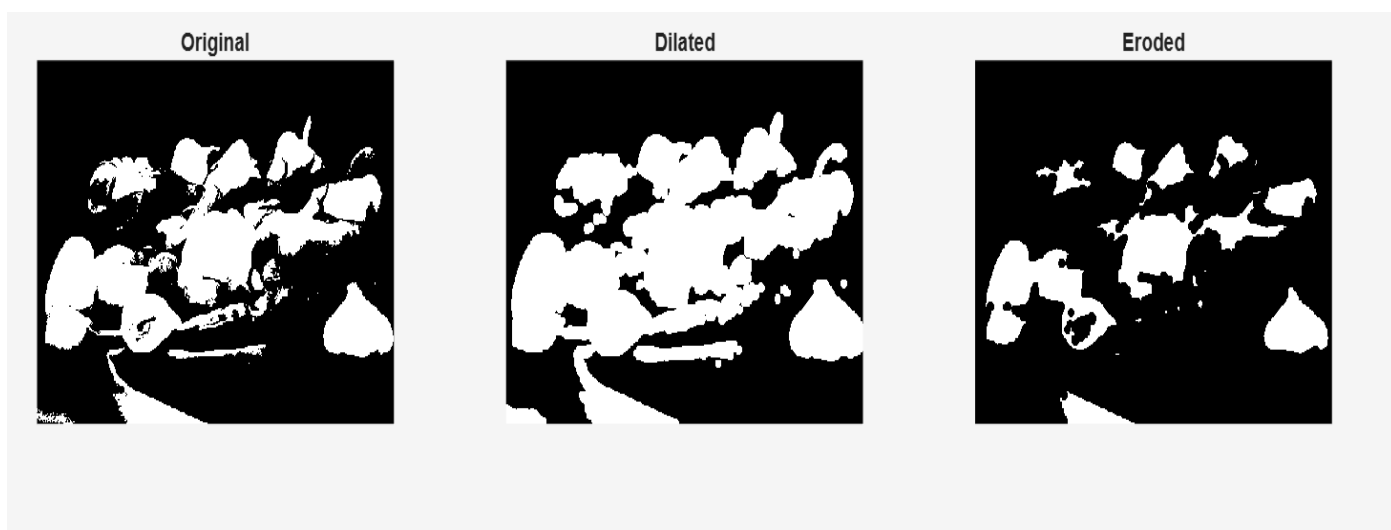
On the right side of the editor, there is a vertical scrollbar and a green checkmark icon. Below the editor, there is a 'Command Window' section. It contains a yellow banner with the text 'New to MATLAB? See resources for [Getting Started](#).' Below the banner, the command window shows the following output:

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

```
exp1.m × +
/MATLAB Drive/exp1.m
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
```

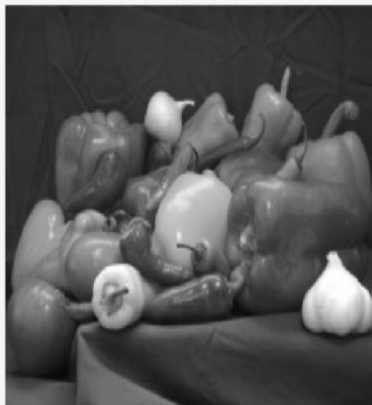


```
exp1.m × +
/MATLAB Drive/exp1.m
1  img = rgb2gray(imread('peppers.png'));
2  bw = imbinarize(img);
3  se = strel('disk', 5);
4  dilated = imdilate(bw, se);
5  eroded = imerode(bw, se);
6  subplot(1,3,1); imshow(bw); title('Original');
7  subplot(1,3,2); imshow(dilated); title('Dilated');
8  subplot(1,3,3); 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
```

Smoothed



Gradient Magnitude



Edge Map (Basic)



```
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
```

