

```
image = imread('file:///MATLAB Drive/apple.jpg');  
grayImage = rgb2gray(image);  
figure;  
imshow(grayImage);  
title('gray Image');
```



ROI

```
figure;  
imshow(grayImage);  
hold on;  
rectangle('Position',[140-69, 100-69, 2*69, 2*69], 'Curvature',[1, 1],  
          'EdgeColor', 'g', 'FaceColor', 'none');  
title('Circle ROI of Image');  
hold off;
```



Gaussian filters

```
gaussianImage = imgaussfilt(grayImage,2);  
figure;  
imshow(gaussianImage);  
hold on;  
rectangle('Position',[140-69, 100-69, 2*69, 2*69], 'Curvature',[1, 1],  
          'EdgeColor', 'g', 'FaceColor', 'none');  
title('Gaussian filter');  
hold off;
```



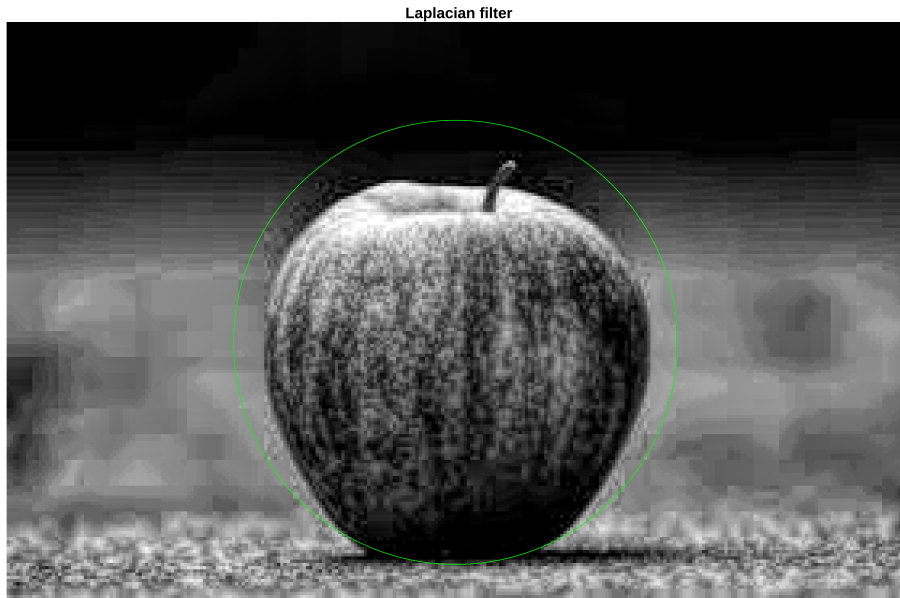
Average filters

```
averageImage = imfilter(grayImage, ones(2) / 4);  
figure;  
imshow(averageImage);  
hold on;  
rectangle('Position',[140-69, 100-69, 2*69, 2*69], 'Curvature',[1, 1],  
          'EdgeColor', 'g', 'FaceColor', 'none');  
title('Average filter');  
hold off;
```



Laplacian filters

```
laplacianImage = locallapfilt(grayImage, 0.2, 0.2);  
figure;  
imshow(laplacianImage);  
hold on;  
rectangle('Position',[140-69, 100-69, 2*69, 2*69], 'Curvature',[1, 1],  
          'EdgeColor', 'g', 'FaceColor', 'none');  
title('Laplacian filter');  
hold off;
```



Prewitt filters

```
prewittImage = edge(grayImage, 'prewitt');  
figure;  
imshow(prewittImage);  
hold on;  
rectangle('Position',[140-69, 100-69, 2*69, 2*69], 'Curvature',[1, 1],  
          'EdgeColor', 'g', 'FaceColor', 'none');  
title('Prewitt filter');  
hold off;
```

Prewitt filter

