```
% Load Image
img = imread('https://cdn.pixabay.com/photo/2015/04/23/22/00/
tree-736885_640.jpg');
grayImg = rgb2gray(img);
% Create a Binary Mask
binaryMask = imbinarize(grayImg);
% Apply Low-Pass Filters
gaussianFilter_low = fspecial('gaussian', [5 5], 2);
avgFilter = fspecial('average', [5 5]);
filteredGaussian = imfilter(grayImg, gaussianFilter_low);
filteredAverage = imfilter(grayImg, avgFilter);
% Apply High-Pass Filters
laplacianFilter_high = fspecial('laplacian', 0.2);
prewittFilter = fspecial('prewitt');
filteredLaplacian = imfilter(grayImg, laplacianFilter_high);
filteredPrewitt = imfilter(grayImg, prewittFilter);
% Display Results
figure;
subplot(2, 3, 1), imshow(grayImg), title('Original Image');
subplot(2, 3, 2), imshow(filteredGaussian), title('Gaussian Filter');
subplot(2, 3, 3), imshow(filteredAverage), title('Average Filter');
subplot(2, 3, 4), imshow(filteredLaplacian), title('Laplacian Filter');
subplot(2, 3, 5), imshow(filteredPrewitt), title('Prewitt Filter');
```

Original Image



Gaussian Filter



Average Filter



Laplacian Filter



Prewitt Filter

