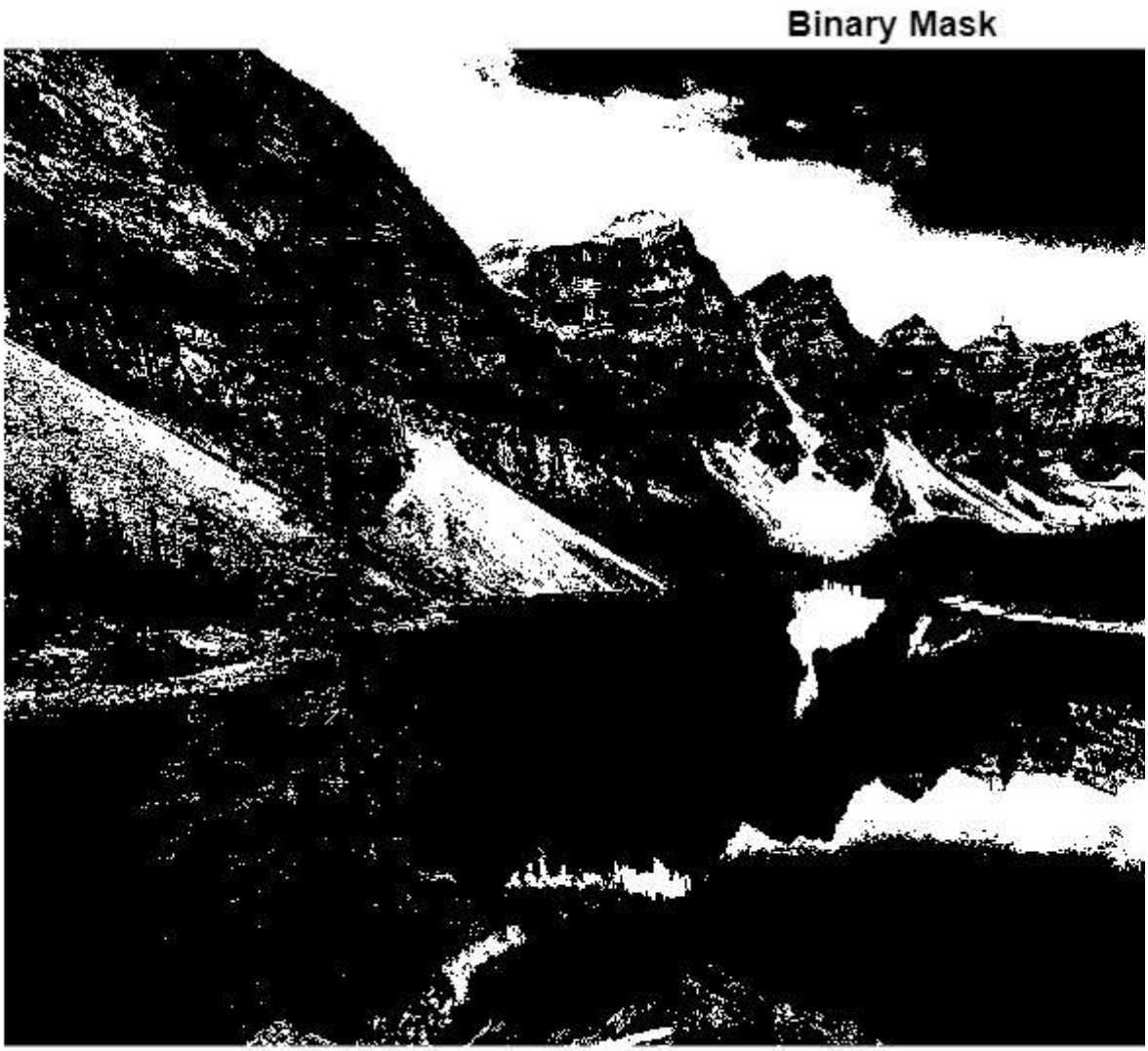
```
% Load the image
img = imread('image.jpg');
imshow(img);
title('Original Image');
```

PCreate a Binary Mask

```
% Convert the image to grayscale
gray_img = rgb2gray(img);

% Create a binary mask using a threshold
threshold = 150;
binary_mask = gray_img > threshold;

% Display the binary mask
imshow(binary_mask);
title('Binary Mask');
```



Apply Low-Pass Filters (Gaussian and Average)

```
% Apply Gaussian filter
gaussian_filter = fspecial('gaussian', [5 5], 1.5);
gaussian_filtered_img = imfilter(gray_img, gaussian_filter);

% Apply Average filter
average_filter = fspecial('average', [5 5]);
average_filtered_img = imfilter(gray_img, average_filter);

figure;
imshow(gaussian_filtered_img);
title('Gaussian Filtered Image');
```

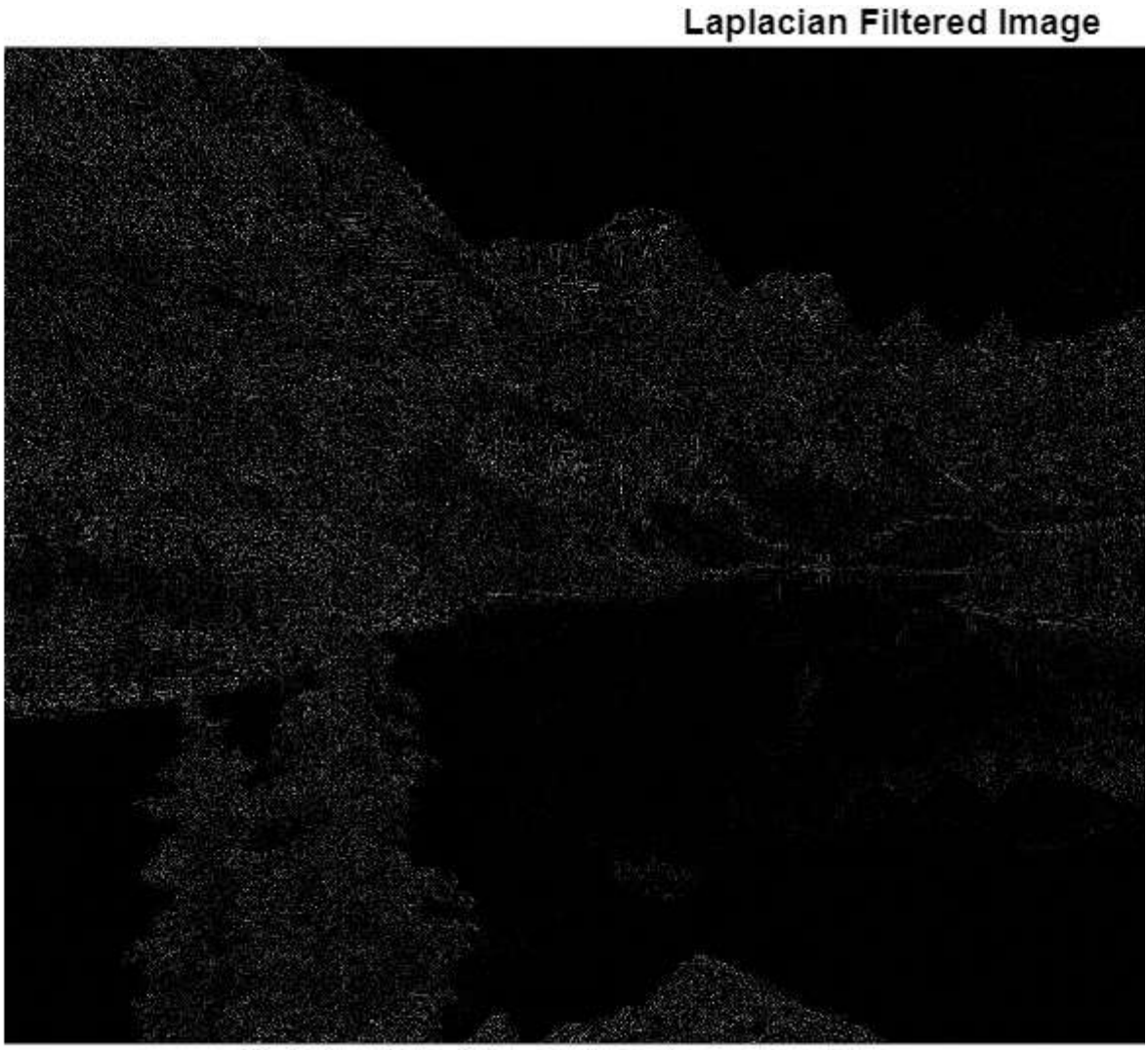

```
figure;
imshow(average_filtered_img);
title('Average Filtered Image');
```

Apply High-Pass Filters (Laplacian and Prewitt)

```
% Apply Laplacian filter
laplacian_filter = fspecial('laplacian', 0.3);
laplacian_filtered_img = imfilter(gray_img, laplacian_filter);

% Apply Prewitt filter
prewitt_filter = fspecial('prewitt');
prewitt_filtered_img = imfilter(gray_img, prewitt_filter);

figure;
imshow(laplacian_filtered_img);
title('Laplacian Filtered Image');
```




```
figure;
imshow(prewitt_filtered_img);
title('Prewitt Filtered Image');
```

Prewitt Filtered Image