

```
I_orig = imread("cat_driving.jpg");  
I = rgb2gray(I_orig);  
disp("Chosen Image:")
```

Chosen Image:

```
imshow(I)  
title("Original")
```

Original



```
disp("Question 1:")
```

Question 1:

```
f_lap = fspecial('laplacian');  
f_pre = fspecial('prewitt');  
f_gaus = fspecial('gaussian',[9 9], 2);  
f_avg = fspecial('average',[9 9]);  
xi = [164 1 129 222 211];  
yi = [5 200 198 159 90];  
roi = roipoly(I, yi, xi);  
imshow(roi)  
title("ROI Mask")
```

ROI Mask



```
J_lap = roifilt2(f_lap,I,roi);  
imshow(J_lap)  
title("laplacian Mask")
```

laplacian Mask



```
J_gaus= roifilt2(f_gaus,I,roi);  
imshow(J_gaus)  
title("gaussian Mask")
```

gaussian Mask



```
J_avg= roifilt2(f_avg,I,roi);  
imshow(J_avg)  
title("average Mask")
```

average Mask



```
J_pre= roifilt2(f_pre,I,roi);  
imshow(J_pre)  
title("prewitt Mask")
```

prewitt Mask

