

**CSE438:Digital Image Processing  
[Fall23]**

**Lab 4**

**Submitted for  
Dr. Ahmed Wasif Reza  
Professor  
Department of Computer Science and Engineering  
East West University**

**Submitted by  
Name: Md. Abdul Ahad Rifat  
ID:2020-1-60-215**

## Question 1

```
image = imread("/MATLAB Drive/Lab 4/image1.jpg");  
gray_image = rgb2gray(image);  
unsharp = imsharpen(image);  
HBF = [0 -1 0; -1 5 -1; 0 -1 0];  
temp = conv2(gray_image, HBF, "same");  
HBImage = uint8(temp);  
figure;  
subplot(1, 3, 1), imshow(image);  
title("Original");  
subplot(1, 3, 2), imshow(unsharp);  
title("Unsharp");  
subplot(1, 3, 3), imshow(HBImage);  
title("High Boost");
```



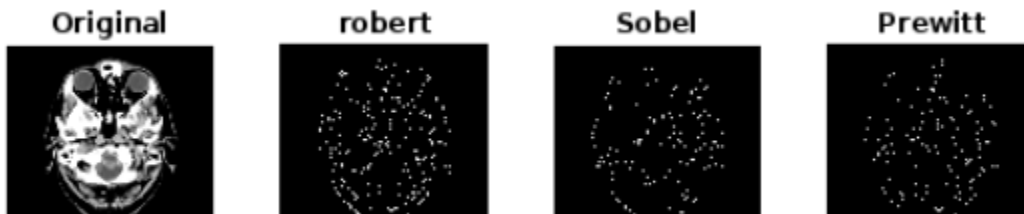
## Question 2

```
image = imread("/MATLAB Drive/Lab 4/image3.jpg");  
gray_image = rgb2gray(image);  
mask = [0 1 0; 1 -4 1; 0 1 0];  
temp = conv2(gray_image, mask, "same");  
LapImage = uint8(temp);  
figure;  
subplot(1, 2, 1), imshow(image);  
title("Original");  
subplot(1, 2, 2), imshow(temp);  
title("Laplacian");
```



### Question 3

```
image = imread("/MATLAB Drive/Lab 4/image2.jpg");
gray_image = rgb2gray(image);
robert = edge(gray_image, "roberts");
sobel = edge(gray_image, "sobel");
prewitt = edge(gray_image, "prewitt");
figure;
subplot(1, 4, 1), imshow(image);
title("Original");
subplot(1, 4, 2), imshow(robert);
title("robert");
subplot(1, 4, 3), imshow(sobel);
title("Sobel");
subplot(1, 4, 4), imshow(prewitt);
title("Prewitt");
```



## Question 4

```
image = imread("/MATLAB Drive/Lab 4/image2.jpg");
gray_image = rgb2gray(image);robert = edge(gray_image, "roberts");
sobel = edge(gray_image, "sobel");
prewitt = edge(gray_image, "prewitt");
canny = edge(gray_image, "canny");
figure;
subplot(2, 3, 1), imshow(image);
title("Original");
subplot(2, 3, 2), imshow(robert);
title("robert");
subplot(2, 3, 3), imshow(sobel);
title("Sobel");
subplot(2, 3, 4), imshow(prewitt);
title("Prewitt");
subplot(2, 3, 5), imshow(canny);
title("Canny");
```

