Experiment – 6 To create a histogram and histogram equalization

```
i = imread('d.jpg');
subplot(2, 3, 1);
imshow(i);
title('Original Image');
ig = rgb2gray(i);
subplot(2, 3, 2);
imshow(ig);
title('Greyscale Image');
subplot(2, 3, 3);
imhist(ig);
title('Histogram of Original Image');
i_eq = histeq(ig);
subplot(2, 3, 4);
imshow(i_eq);
title('Equalized Image');
subplot(2, 3, 5);
imhist(i_eq);
title('Histogram of Equalized Image');
```

Experiment – 7 To perform 2 dimensional Fourier transformation

```
i = imread('h.png');
g = rgb2gray(i);
c = fft2(g);
b = ifft2(c);
subplot(2,2,1);
imshow(i);
title('Original Image');
subplot(2,2,2);
imshow(g);
title('Gray Image');
subplot(2,2,3);
% imshow(c);
imshow(log(1+abs(fftshift(c))),[]);
title('Fourier Transform');
subplot(2,2,4);
imshow(abs(b), []);
title('Result Image');
```

Experiment – 8 To perform linear filtering using convolution

```
a = imread('c.jpg');
subplot(2,2,1);
imshow(a);
Hm = fspecial('motion', 20, 75);
MotionBlur = imfilter(a, Hm, 'replicate');
subplot(2,2,2);
imshow(MotionBlur);
Hb = fspecial('disk', 10);
blurred = imfilter(a, Hb, 'replicate');
subplot(2,2,3);
imshow(blurred);
```

Experiment – 9 To perform Image Edge Detection using Sobel and canny filtering

```
a = imread('h.jpg');
b = rgb2gray(a);
subplot(2,2,1);
imshow(a);
title('Original Image');
bw1 = edge(b, 'sobel');
bw2 = edge(b, 'canny');
subplot(2,2,2);
imshowpair(bw1, bw2, 'montage');
title('Sobel and Canny');
subplot(2,2,3);
imshow(bw1);
title('Sobel');
subplot(2,2,4);
imshow(bw2);
title('Canny');
```

Experiment – 10 (a) To perform Opening operations on an image

```
i = imread('c.jpg');
subplot(2,1,1);
imshow(i);
title('Original Image');
se = strel('disk', 5);
afterOpening = imopen(i, se);
subplot(2,1,2);
imshow(afterOpening);
title('After Opening');
```

Experiment – 10 (b) To perform Closing operations on an image

```
i = imread('c.jpg');
subplot(2,1,1);
imshow(i);
title('Original Image');
se = strel('disk', 10);
closeBW = imclose(i, se);
subplot(2,1,2);
imshow(closeBW);
title('After Closing');
```

Experiment – 11 (a) To perform erosion operation

```
i = imread('c.jpg');
subplot(2,1,1);
imshow(i);
title('Original Image');
se = strel('disk', 11);
erodeSW = imerode(i, se);
subplot(2,1,2);
imshow(erodeSW);
title('After Erosion');
```

Experiment – 11 (b) To perform dilation operation

```
i = imread('c.jpg');
subplot(2,1,1);
imshow(i);
title('Original Image');
se = strel('ball', 5, 5);
i2 = imdilate(i, se);
subplot(2,1,2);
imshow(i2);
title('After Dilation');
```