Image Processing Lab

Primary Level

1. Zoom out using pixel reduction
2. Zoom out by block (ex. >2)
3. zoom out by block by median
4. zoom out by block by max value
5. Zoom in using block
6. gray to binary image

Spatial Domain

7. Show image Portion of an image
8. binary image to negative image conversion
9. gray image to negative conversion
10. image histogram simple
11. image histogram by 10 steps
12. image histogram normalization
13. image histogram equalization
14. image subtraction (1 image - subtract 256)
15. image subtraction (Using 2 image.- one from other)
16. histogram matching
17. Sharpening Smoothing spatial filter by conv
18. Sharpening -2nd derivative(Laplacian)
19. Un sharp masking with k=1
20. High Boost Filtering Image with k>1
21. image averaging
22. Gradient Sobel operation
23. Gradient Robert cross difference
24. Gradient Using convolution 2d
25. Bit Plane Slicing
26. Log Transformation
27. Power Law Transformation(Gamma)
28. Contrast Stretching

Fourier Transform

29. Fourier Transform –DFT and IDFT
30. Ideal Low Pass Filter
31. Ideal High Pass Filter
32. Butterworth Low Pass Filter
33. Butterworth High Pass Filter
34. Gaussian Low Pass Filter
35. Gaussian High Pass Filter

Noise Model

36. Erlang
37. Exponential
38. Gaussian
39. Rayleigh
40. salt pepper
41. uniform

Filters

42. Arithmetic mean filter
43. Contra harmonic mean filter
44. Geometric mean filter
45. Harmonic mean filter
46. Max Filter
47. Median Filter
48. Mid Point Filter
49. Min Filter

Detection
50. Point detection
    Line detection
51. Horizontal_line
52. vertical_line
53. plus45_line
54. minus45_line
    Edge detection
55. Prewitt_Edge
56. Sobel_Edge

__Morphology__

57. Erosion
58. Dialation
59. Opening
60. Closing