```
>> analysis2
Warning: Directory already exists.
> In analysis2 (line 11)
Iteration: 1, PSNR: 31.78 dB, Objective Value: 3.55
Iteration: 2, PSNR: 32.63 dB, Objective Value: 2.89
Iteration: 3, PSNR: 33.04 dB, Objective Value: 2.60
Iteration: 4, PSNR: 33.21 dB, Objective Value: 2.49
Iteration: 5, PSNR: 33.28 dB, Objective Value: 2.44
Iteration: 6, PSNR: 33.30 dB, Objective Value: 2.42
Iteration: 7, PSNR: 33.30 dB, Objective Value: 2.42
Iteration: 8, PSNR: 33.29 dB, Objective Value: 2.42
Iteration: 1, PSNR: 26.94 dB, Objective Value: 12.38
Iteration: 2, PSNR: 28.41 dB, Objective Value: 8.59
Iteration: 3, PSNR: 29.04 dB, Objective Value: 7.02
Iteration: 4, PSNR: 29.20 dB, Objective Value: 6.61
Iteration: 5, PSNR: 29.24 dB, Objective Value: 6.45
Iteration: 6, PSNR: 29.24 dB, Objective Value: 6.40
Iteration: 7, PSNR: 29.24 dB, Objective Value: 6.40
Iteration: 8, PSNR: 29.22 dB, Objective Value: 6.41
Iteration: 1, PSNR: 23.39 dB, Objective Value: 32.31
Iteration: 2, PSNR: 25.05 dB, Objective Value: 21.76
Iteration: 3, PSNR: 26.21 dB, Objective Value: 15.30
Iteration: 4, PSNR: 26.72 dB, Objective Value: 12.48
Iteration: 5, PSNR: 26.90 dB, Objective Value: 11.41
Iteration: 6, PSNR: 26.96 dB, Objective Value: 11.03
Iteration: 7, PSNR: 26.98 dB, Objective Value: 10.87
Iteration: 8, PSNR: 26.99 dB, Objective Value: 10.81
Iteration: 9, PSNR: 27.00 dB, Objective Value: 10.80
Iteration: 10, PSNR: 27.00 dB, Objective Value: 10.78
Iteration: 11, PSNR: 27.03 dB, Objective Value: 10.79
Iteration: 12, PSNR: 27.04 dB, Objective Value: 10.78
Iteration: 1, PSNR: 18.69 dB, Objective Value: 139.86
Iteration: 2, PSNR: 20.65 dB, Objective Value: 95.24
Iteration: 3, PSNR: 22.44 dB, Objective Value: 62.32
Iteration: 4, PSNR: 23.57 dB, Objective Value: 40.93
Iteration: 5, PSNR: 24.05 dB, Objective Value: 29.84
Iteration: 6, PSNR: 24.20 dB, Objective Value: 24.90
Iteration: 7, PSNR: 24.26 dB, Objective Value: 22.98
Iteration: 8, PSNR: 24.28 dB, Objective Value: 22.37
Iteration: 9, PSNR: 24.31 dB, Objective Value: 22.20
Iteration: 10, PSNR: 24.32 dB, Objective Value: 22.05
Iteration: 11, PSNR: 24.35 dB, Objective Value: 22.02
Iteration: 12, PSNR: 24.36 dB, Objective Value: 21.89
Iteration: 13, PSNR: 24.39 dB, Objective Value: 21.89
Iteration: 14, PSNR: 24.40 dB, Objective Value: 21.78
Iteration: 15, PSNR: 24.43 dB, Objective Value: 21.90
Iteration: 16, PSNR: 24.45 dB, Objective Value: 21.82
Iteration: 1, PSNR: 12.00 dB, Objective Value: 1400.15
Iteration: 2, PSNR: 13.77 dB, Objective Value: 1067.78
Iteration: 3, PSNR: 15.79 dB, Objective Value: 760.75
Iteration: 4, PSNR: 17.78 dB, Objective Value: 493.72
Iteration: 5, PSNR: 19.13 dB, Objective Value: 311.41
Iteration: 6, PSNR: 19.82 dB, Objective Value: 208.58
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Iteration: 7, PSNR: 20.14 dB, Objective Value: 161.10
Iteration: 8, PSNR: 20.32 dB, Objective Value: 139.93
Iteration: 9, PSNR: 20.43 dB, Objective Value: 129.49
Iteration: 10, PSNR: 20.52 dB, Objective Value: 119.29
Iteration: 11, PSNR: 20.59 dB, Objective Value: 113.27
Iteration: 12, PSNR: 20.63 dB, Objective Value: 108.22
Iteration: 13, PSNR: 20.68 dB, Objective Value: 106.36
Iteration: 14, PSNR: 20.72 dB, Objective Value: 103.48
Iteration: 15, PSNR: 20.77 dB, Objective Value: 104.44
Iteration: 16, PSNR: 20.80 dB, Objective Value: 103.34
Iteration: 17, PSNR: 20.84 dB, Objective Value: 106.13
Iteration: 18, PSNR: 20.87 dB, Objective Value: 105.85
Iteration: 19, PSNR: 20.90 dB, Objective Value: 110.33
Iteration: 20, PSNR: 20.94 dB, Objective Value: 110.58
>> clear all
>> oimg = im2double(imread("test_images/cameramen_test.jpg"));

n = 5;
nsig = [10,20,30,50,100];
psnr_noise = zeros(length(nsig),1);
psnr_estimate = zeros(length(nsig),1);

% Create a new folder for saving the results
resultsFolder = 'DeNoisingResults2';
mkdir(resultsFolder);
>> iter=2

iter =

     2

>> nimg = oimg + (nsig(iter)/255)*randn(size(oimg));
    psnr_noise(iter) = psnr(oimg,nimg);

    Par = ParSet(nsig(iter)/255);
    [estimg, objective] = WNNM_DeNoising(nimg, oimg, Par);
    psnr_estimate(iter) = psnr(oimg,estimg);

Iteration: 1, PSNR: 26.37 dB, Objective Value: 209.29
Iteration: 2, PSNR: 27.69 dB, Objective Value: 206.34
Iteration: 3, PSNR: 28.52 dB, Objective Value: 204.88
Iteration: 4, PSNR: 28.89 dB, Objective Value: 204.32
Iteration: 5, PSNR: 29.03 dB, Objective Value: 204.11
Iteration: 6, PSNR: 29.08 dB, Objective Value: 204.04
Iteration: 7, PSNR: 29.11 dB, Objective Value: 204.01
Iteration: 8, PSNR: 29.12 dB, Objective Value: 204.00
>> clear all
>> analysis2
Warning: Directory already exists.
> In analysis2 (line 10)
Iteration: 1, PSNR: 31.60 dB, Objective Value: 201.38
Iteration: 2, PSNR: 32.45 dB, Objective Value: 200.78
Iteration: 3, PSNR: 32.95 dB, Objective Value: 200.48
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Iteration: 4, PSNR: 33.16 dB, Objective Value: 200.36
Iteration: 5, PSNR: 33.25 dB, Objective Value: 200.31
Iteration: 6, PSNR: 33.29 dB, Objective Value: 200.29
Iteration: 7, PSNR: 33.31 dB, Objective Value: 200.28
Iteration: 8, PSNR: 33.32 dB, Objective Value: 200.27
Iteration: 1, PSNR: 26.56 dB, Objective Value: 208.82
Iteration: 2, PSNR: 27.95 dB, Objective Value: 205.84
Iteration: 3, PSNR: 28.81 dB, Objective Value: 204.43
Iteration: 4, PSNR: 29.17 dB, Objective Value: 203.93
Iteration: 5, PSNR: 29.29 dB, Objective Value: 203.76
Iteration: 6, PSNR: 29.32 dB, Objective Value: 203.72
Iteration: 7, PSNR: 29.34 dB, Objective Value: 203.70
Iteration: 8, PSNR: 29.34 dB, Objective Value: 203.69
Iteration: 1, PSNR: 23.74 dB, Objective Value: 218.68
Iteration: 2, PSNR: 25.50 dB, Objective Value: 211.79
Iteration: 3, PSNR: 26.51 dB, Objective Value: 208.93
Iteration: 4, PSNR: 26.81 dB, Objective Value: 208.21
Iteration: 5, PSNR: 26.88 dB, Objective Value: 208.03
Iteration: 6, PSNR: 26.90 dB, Objective Value: 208.00
Iteration: 7, PSNR: 26.92 dB, Objective Value: 207.95
Iteration: 8, PSNR: 26.93 dB, Objective Value: 207.93
Iteration: 1, PSNR: 20.36 dB, Objective Value: 243.09
Iteration: 2, PSNR: 22.75 dB, Objective Value: 224.02
Iteration: 3, PSNR: 23.95 dB, Objective Value: 217.72
Iteration: 4, PSNR: 24.22 dB, Objective Value: 216.54
Iteration: 5, PSNR: 24.29 dB, Objective Value: 216.25
Iteration: 6, PSNR: 24.30 dB, Objective Value: 216.18
Iteration: 7, PSNR: 24.31 dB, Objective Value: 216.15
Iteration: 8, PSNR: 24.31 dB, Objective Value: 216.17
Iteration: 1, PSNR: 15.58 dB, Objective Value: 333.48
Iteration: 2, PSNR: 19.17 dB, Objective Value: 257.31
Iteration: 3, PSNR: 20.83 dB, Objective Value: 238.43
Iteration: 4, PSNR: 21.02 dB, Objective Value: 236.77
Iteration: 5, PSNR: 21.09 dB, Objective Value: 236.14
Iteration: 6, PSNR: 21.12 dB, Objective Value: 235.87
Iteration: 7, PSNR: 21.15 dB, Objective Value: 235.61
Iteration: 8, PSNR: 21.16 dB, Objective Value: 235.47
>>
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