

Gaussian noise, amplitude = 10



Gaussian noise, amplitude = 10

SNR = 13.56



3x3 box filter

SNR = 17.72



5x5 box filter

SNR = 14.85



3x3 median filter

SNR = 17.65



5x5 median filter

SNR = 15.98



Opening-then-closing  
SNR = 13.23



Closing-then-opening  
SNR = 13.62

Gaussian noise, amplitude = 30



Gaussian noise, amplitude = 30

SNR = 4.17



3x3 box filter

SNR = 12.64



5x5 box filter

SNR = 13.34



3x3 median filter

SNR = 11.08



5x5 median filter

SNR = 12.93



Opening-then-closing  
SNR = 11.12



Closing-then-opening  
SNR = 11.10

Salt and pepper noise, probability = 0.05



Salt and pepper noise, probability = 0.05

SNR = 0.93



3x3 box filter

SNR = 9.44



5x5 box filter

SNR = 11.15



3x3 median filter

SNR = 18.85



5x5 median filter

SNR = 16.34



Opening-then-closing  
SNR = 5.56



Closing-then-opening  
SNR = 5.44





Salt and pepper, probability = 0.1

SNR = - 2.11



3x3 box filter

SNR = 6.35



5x5 box filter

SNR = 8.53



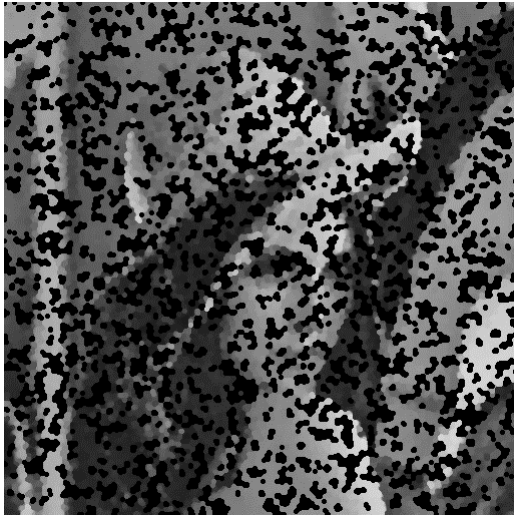
3x3 median filter

SNR = 14.69

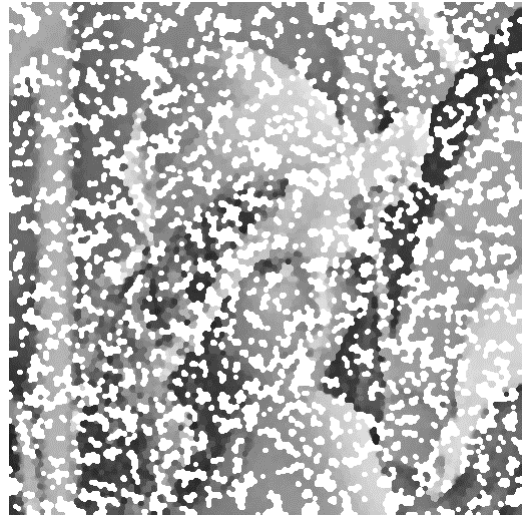


5x5 median filter

SNR = 15.76



Opening-then-closing  
SNR = - 2.28



Closing-then-opening  
SNR = - 2.61