

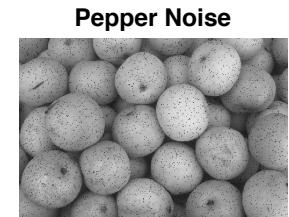
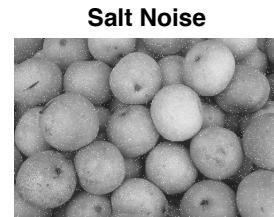
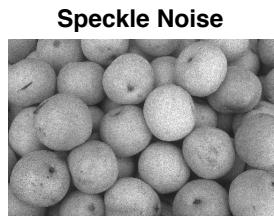
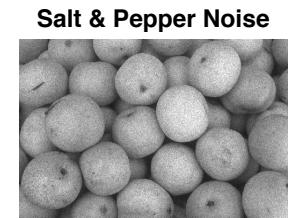
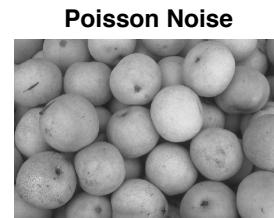
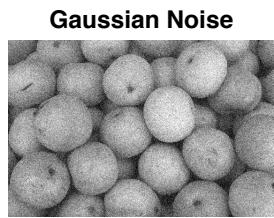
Question 1:

Contraharmonic with -ve sign increases pepper noise in the image.
Contraharmonic with +ve sign increases salt noise in the image.

Question 2:

Because Median filter is an order filter and it smooths out salt and pepper noise as this noise is due to outliers (i.e white and black dots) and median filter removes outliers. It doesn't work well on Gaussian noise as it's uniform all over the image and it's not caused due to outliers.

Task1:



Task2:

Arithmetic:

Impact on Gaussian



Impact on Poisson Noise



Impact on Salt & Pepper Noise



Impact on Speckle Noise



Impact on Salt Noise



Impact on Pepper Noise



Geometric:

Gaussian



Poisson



Salt & Pepper



Poisson



Poisson



Poisson



Harmonic Mean:

Harmonic Gaussian Mean Filter



Poisson Filter



Salt & Pepper Filter



Speckle Filter



Salt Filter



Pepper Filter



ContraHarmonic with -1

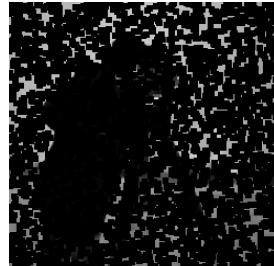
Contra Harmonic -1 Gaussian Filter



Poisson Filter



Salt & Pepper Filter



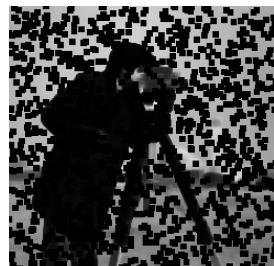
Speckle Filter



Salt Filter



Pepper Filter



Contra Harmonic +1:

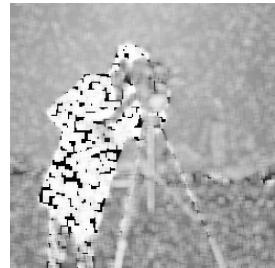
Contra Harmonic 1 Gaussian Filter



Poisson Filter



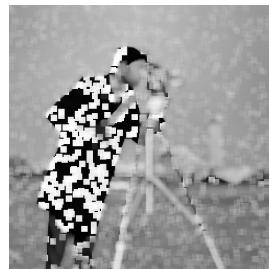
Salt & Pepper Filter



Speckle Filter



Salt Filter



Pepper Filter



MIN:

Min Filter: Gaussian Filter



Poisson Filter



Salt & Pepper Filter



Speckle Filter



Salt Filter



Pepper Filter



MAX Filter:

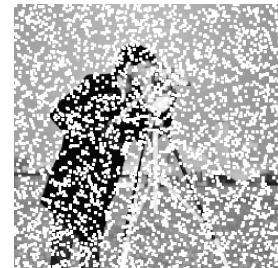
Max Filter: Gaussian Filter



Poisson Filter



Salt & Pepper Filter



Speckle Filter



Salt Filter



Pepper Filter



Median Filter:

Medain Filter: Gaussian Filter



Poisson Filter



Salt & Pepper Filter



Speckle Filter



Salt Filter



Pepper Filter

