

ASSIGNMENT 2

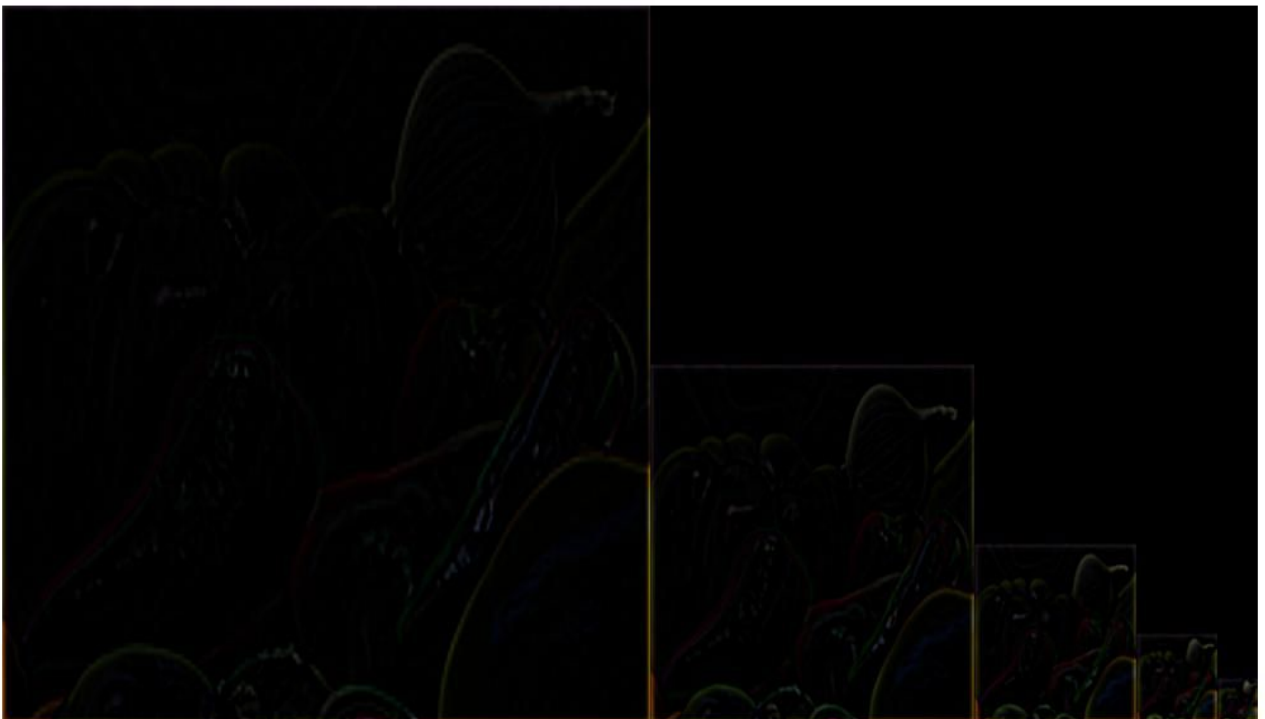
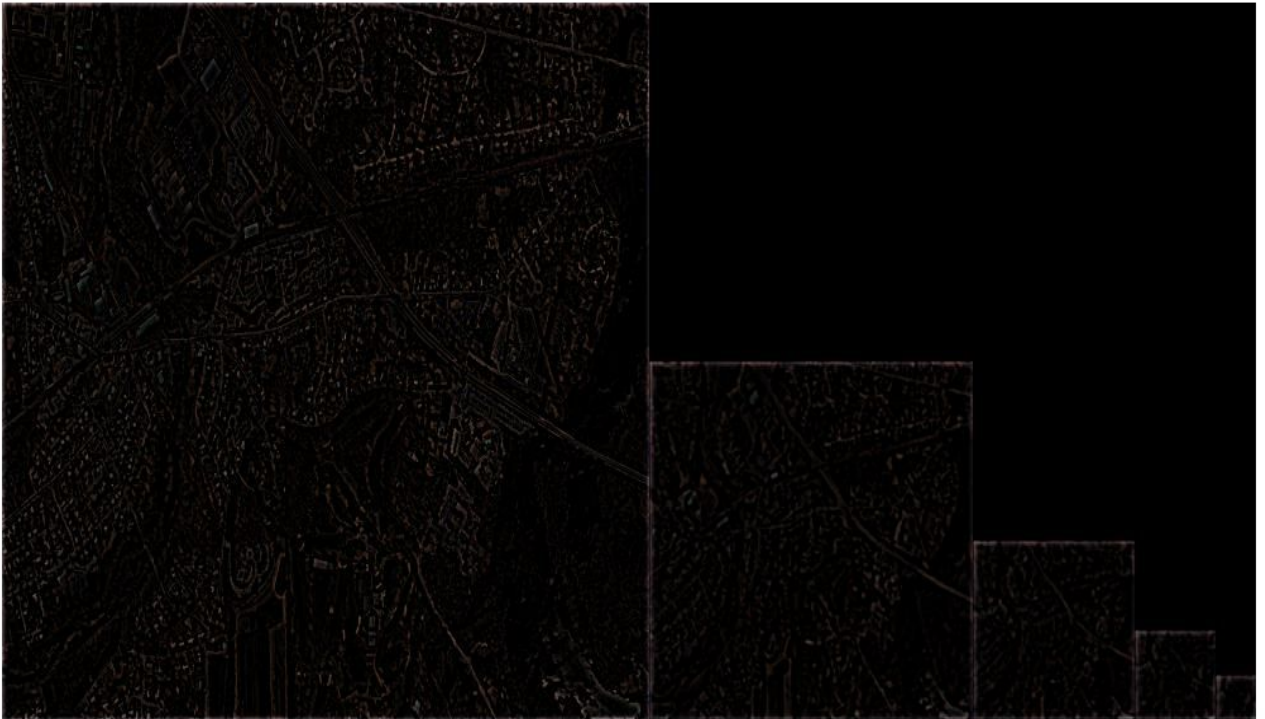
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20172088

Question 1 :A: Gaussian & Laplacian Pyramid

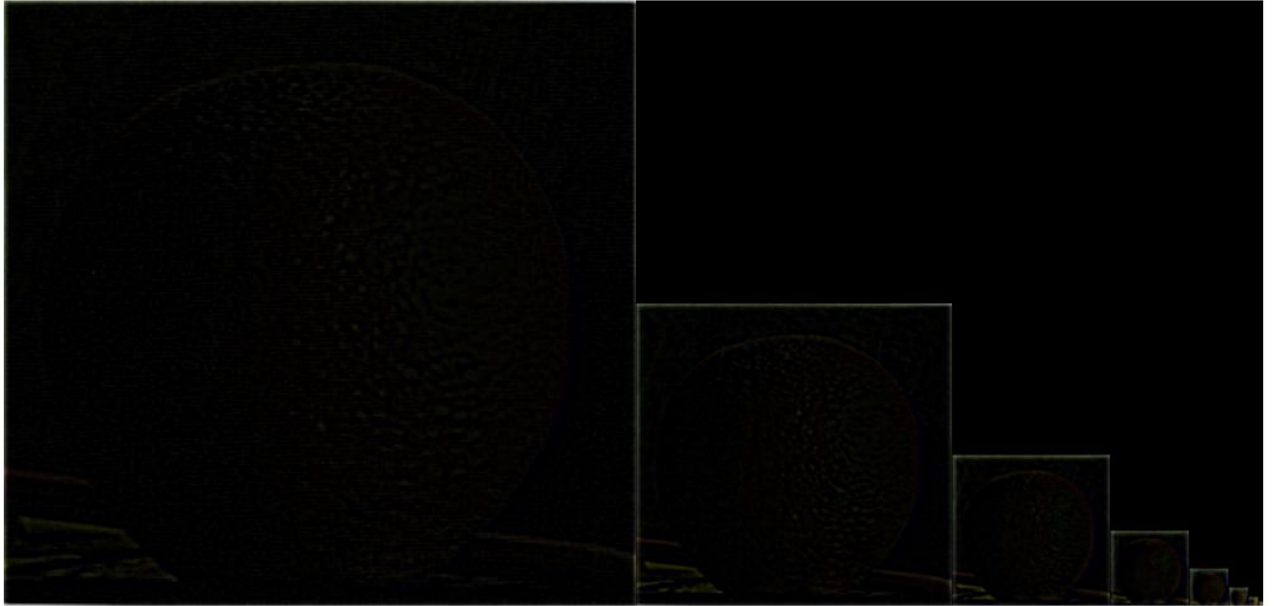
Gaussian Pyramid



Laplacian Pyramid



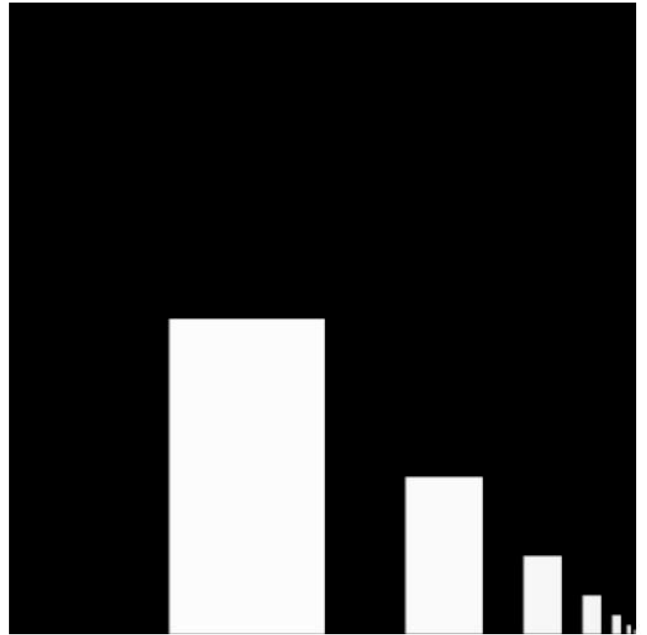
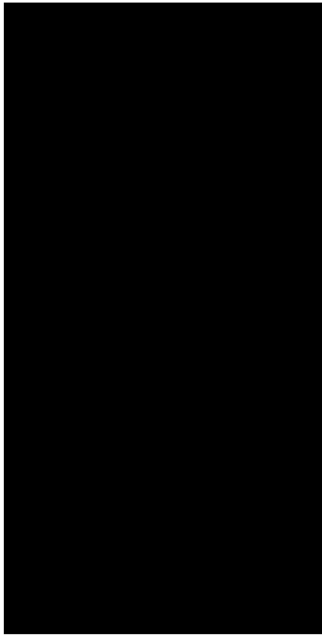
1B: Image blending with Laplacian Pyramid
(Case 1) Laplacian Pyramid of first Image



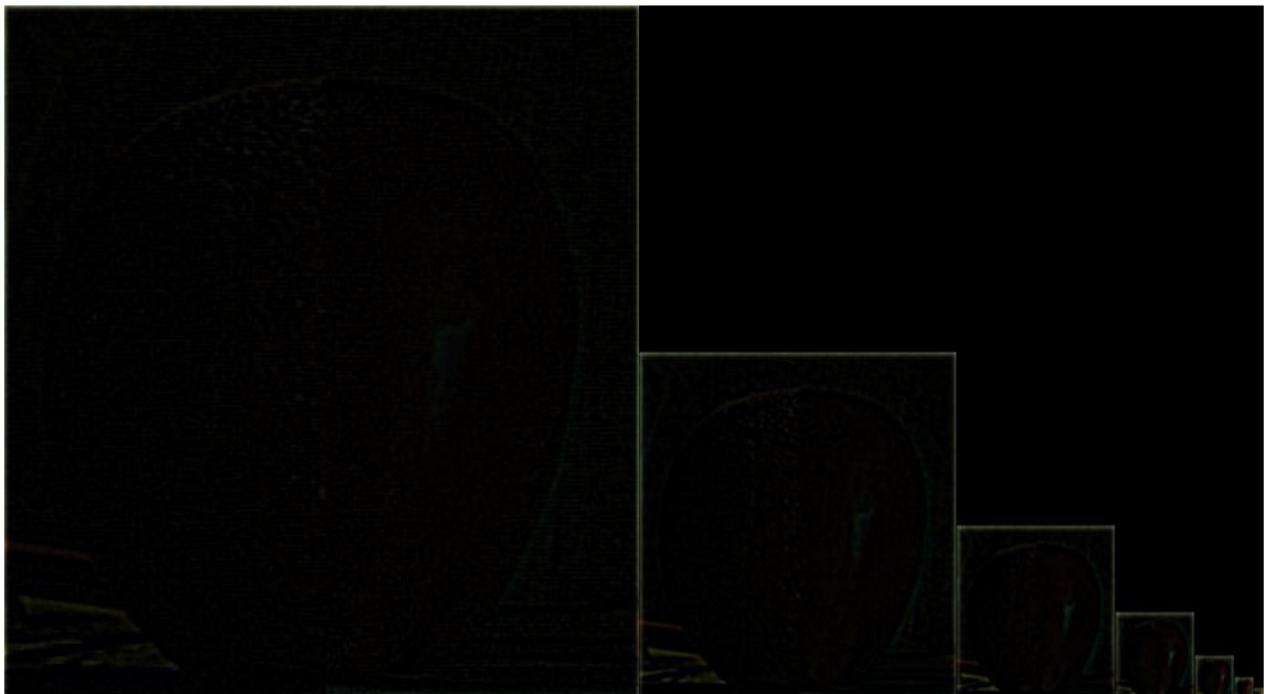
Laplacian Pyramid of Second Image



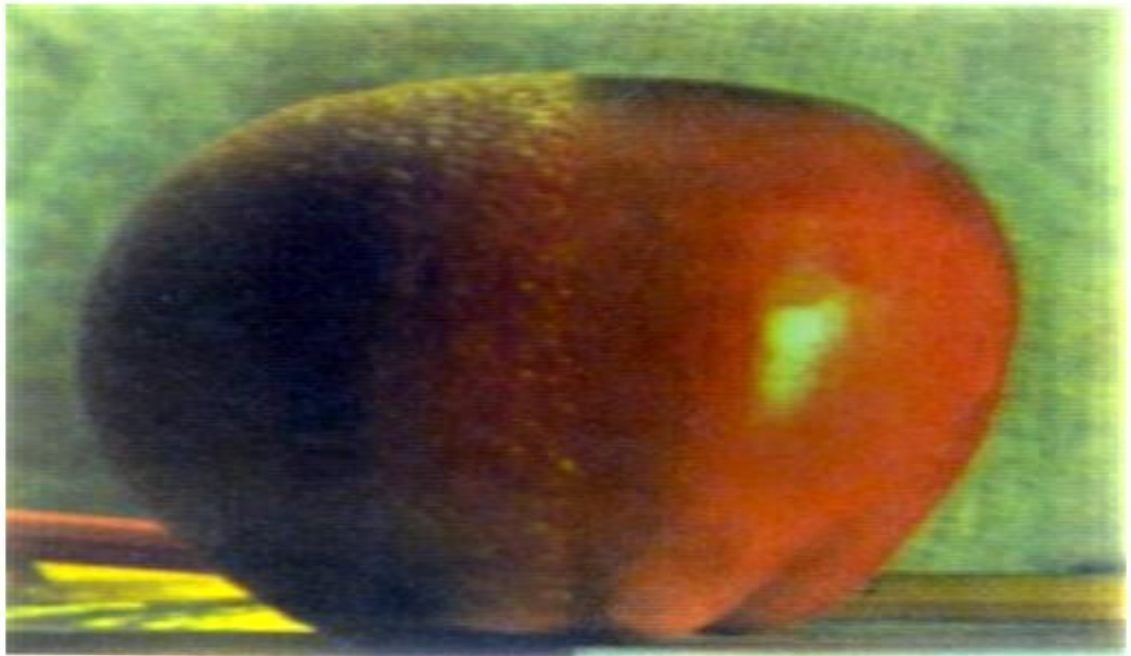
Gaussian Pyramid of Mask



Resultant Pyramid



Resultant Image



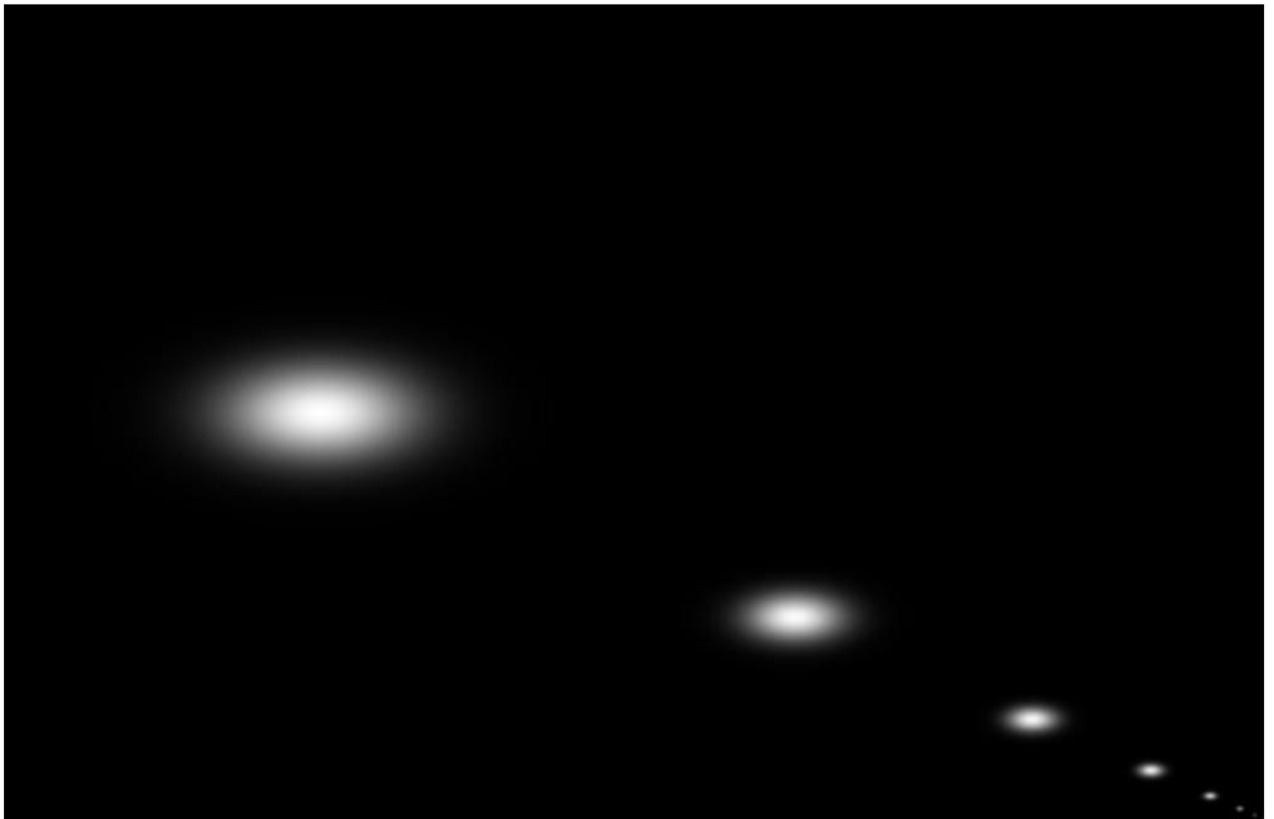
Case 2:
Laplacian Pyramid of first Image



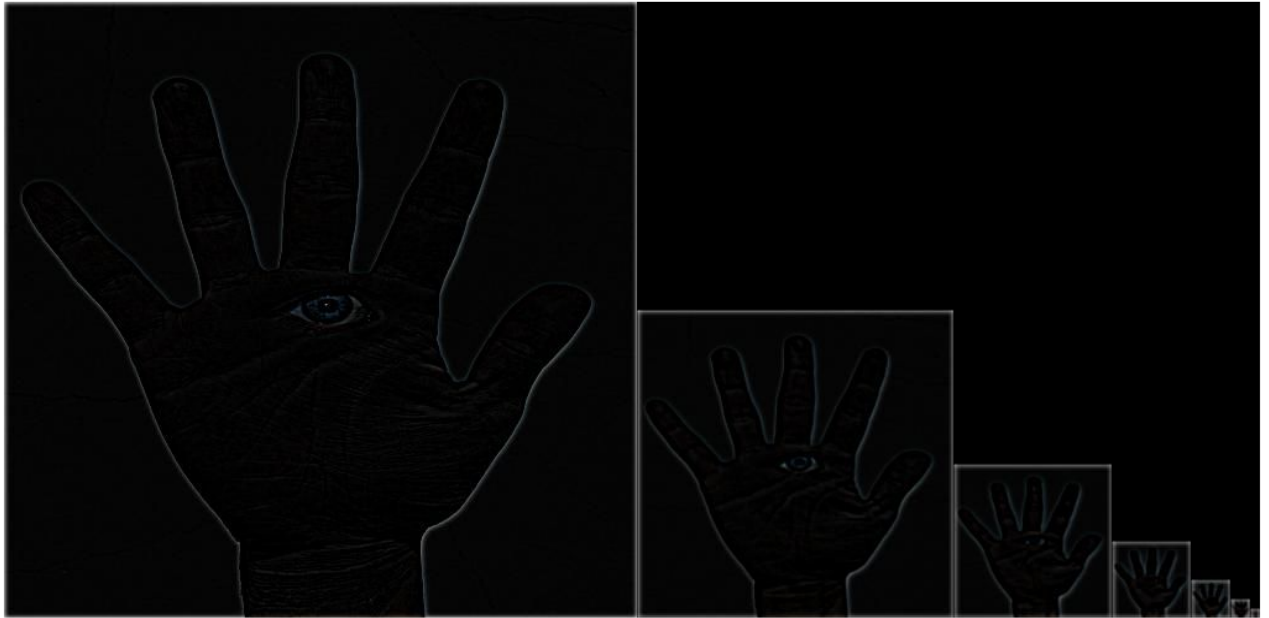
Laplacian Pyramid of Second Image



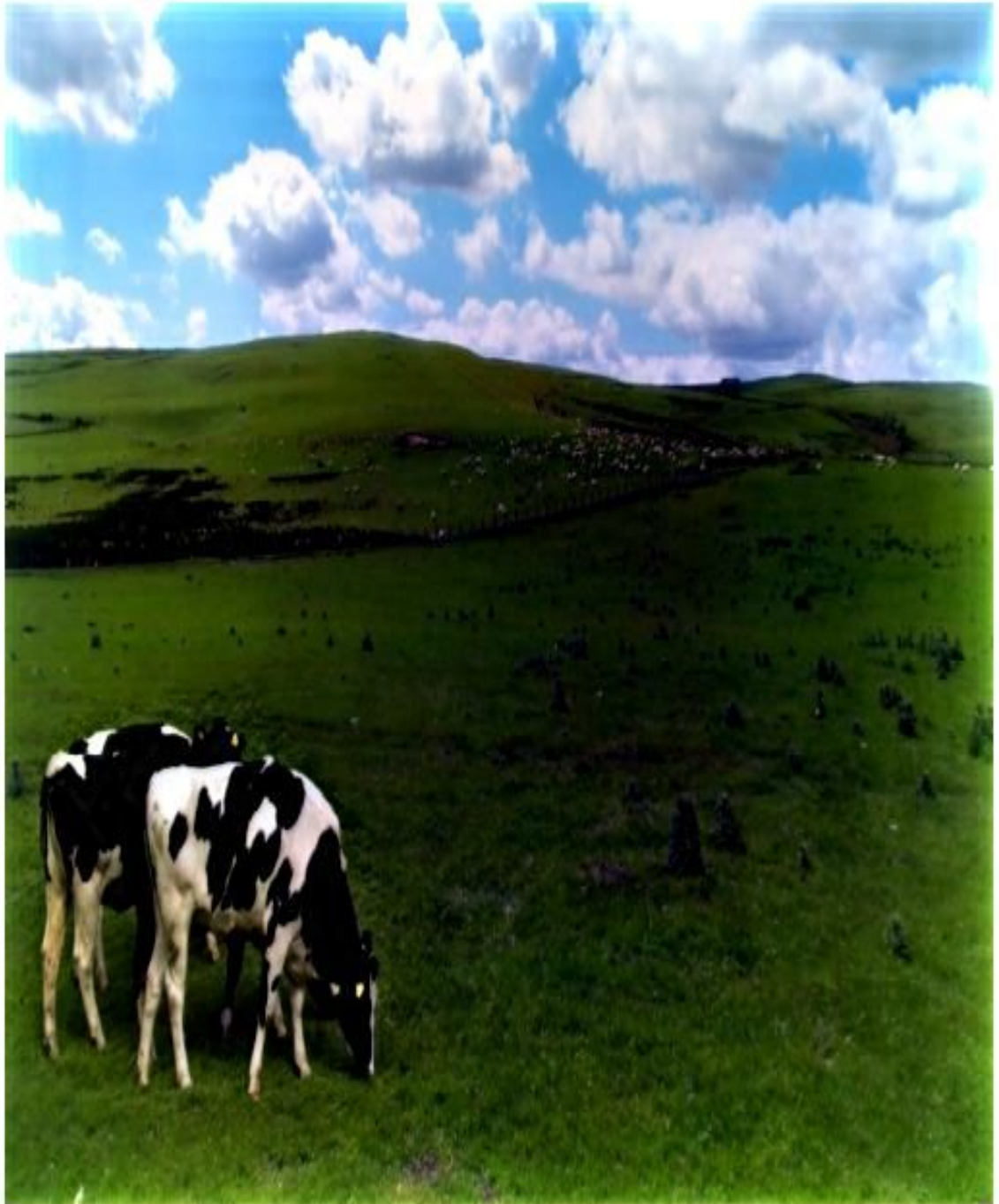
Gaussian Pyramid of Mask



Resultant Pyramid



Case 3 : Blended Image



C. Image up-sampling

Original Image

original

Linear

Linear

Nearest Neighbour

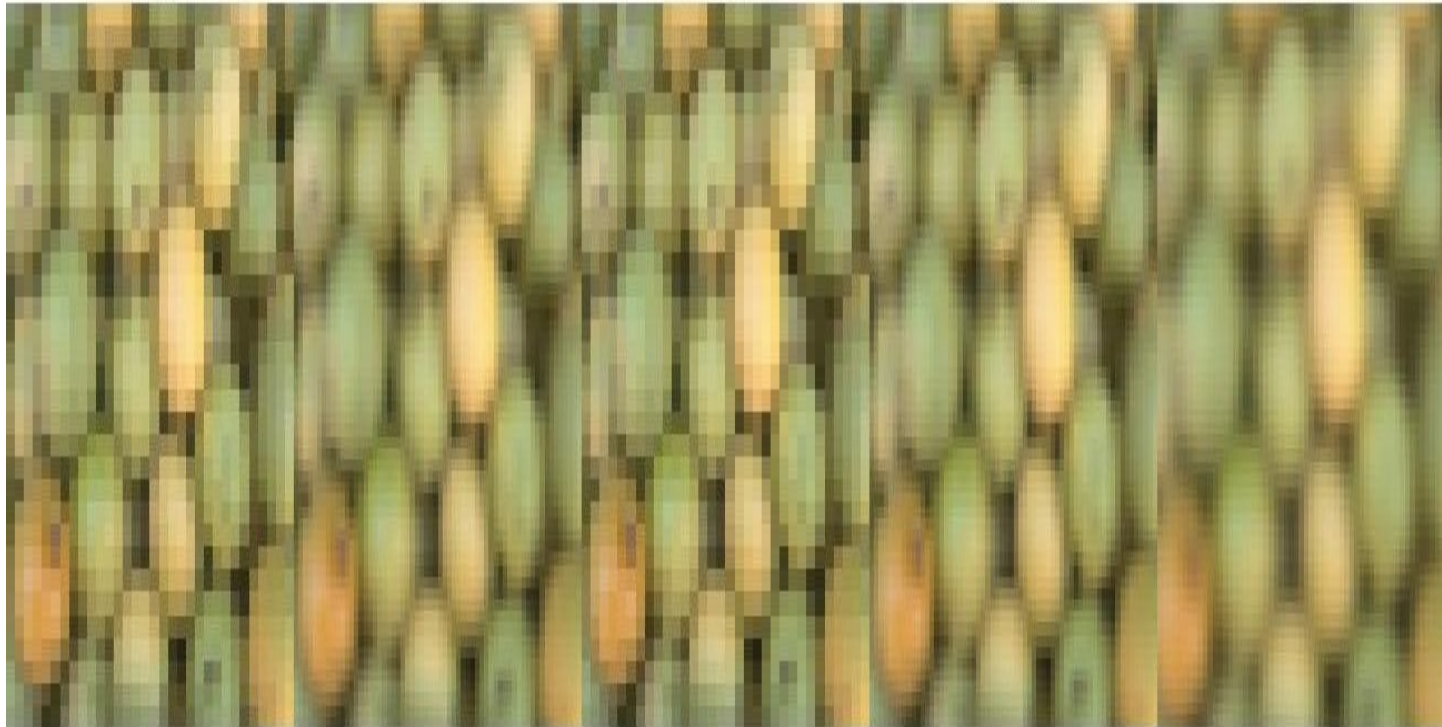
Nearest Neighbour

Bilinear

Bilinear

Bicubic

Cubic



original

Linear

Nearest Neighbour

Bilinear

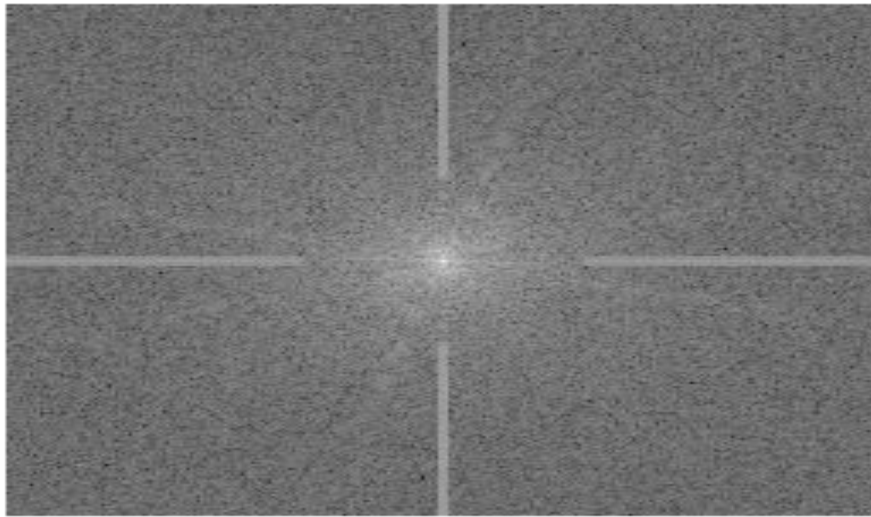
Cubic



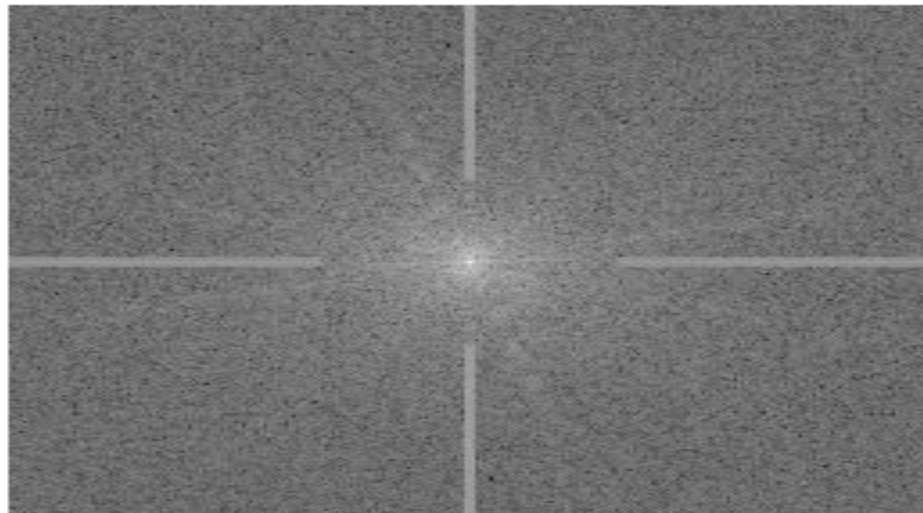
Problem 2 FFT & Frequency filters:

A: Fast Fourier Transform

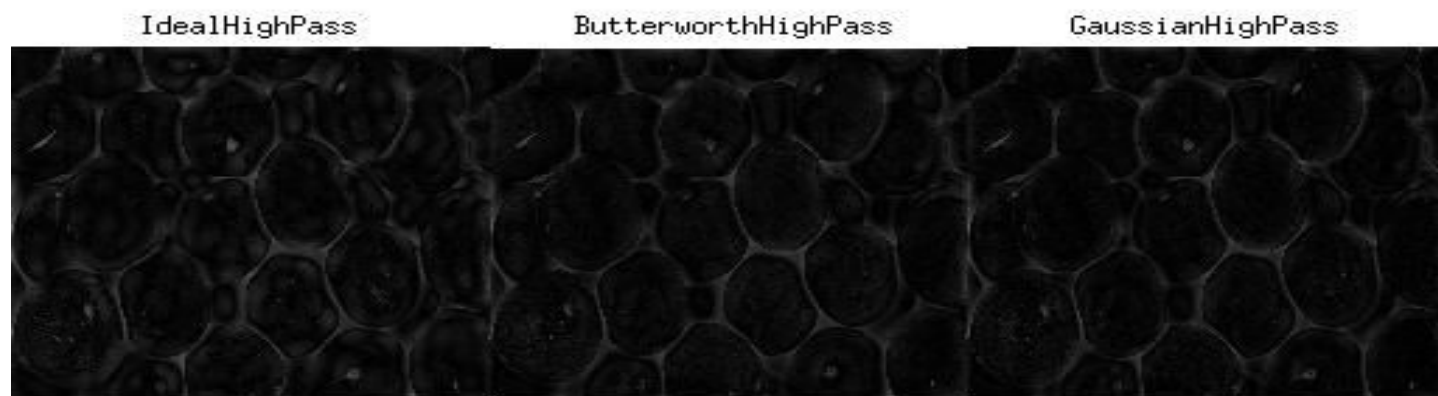
Matlab Output



Implemented Output



B:Low/High Pass filter: Ideal, Butterworth and Gaussian



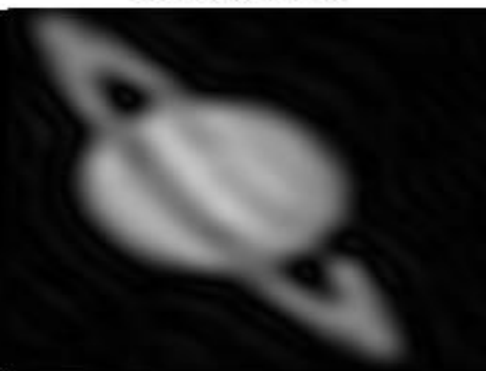
GaussianLowPass



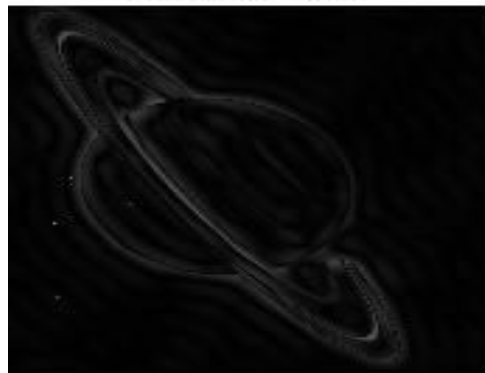
ButterworthLowPass



IdealLowPass



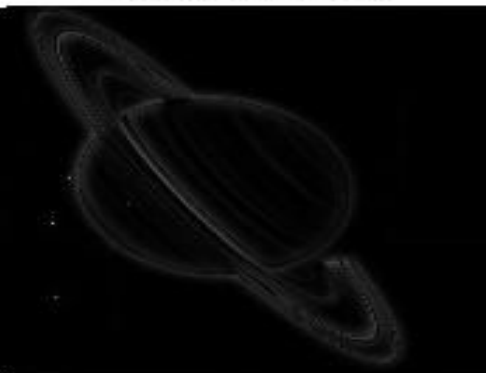
IdealHighPass



ButterworthHighPass



GaussianHighPass

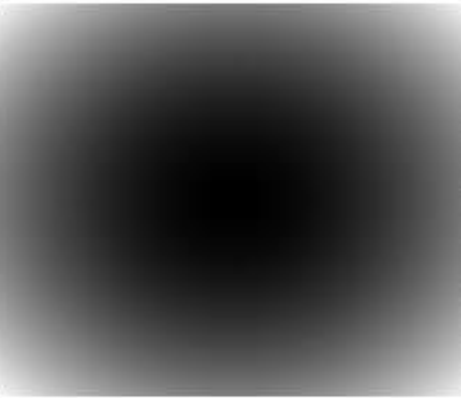


C: Laplacian Filter

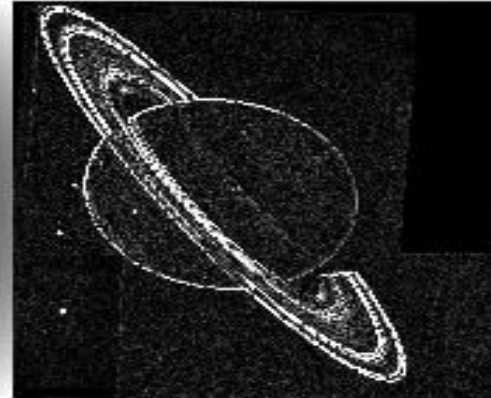
Original



LaplacianFilter



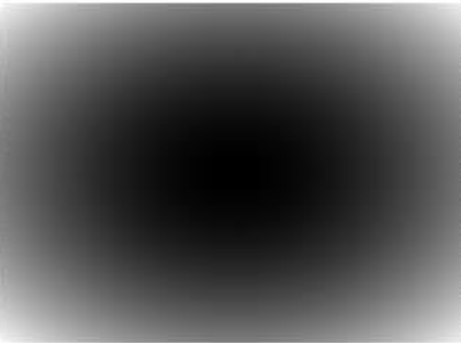
Output Image



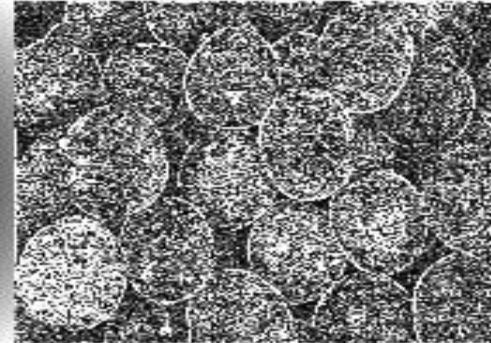
Original



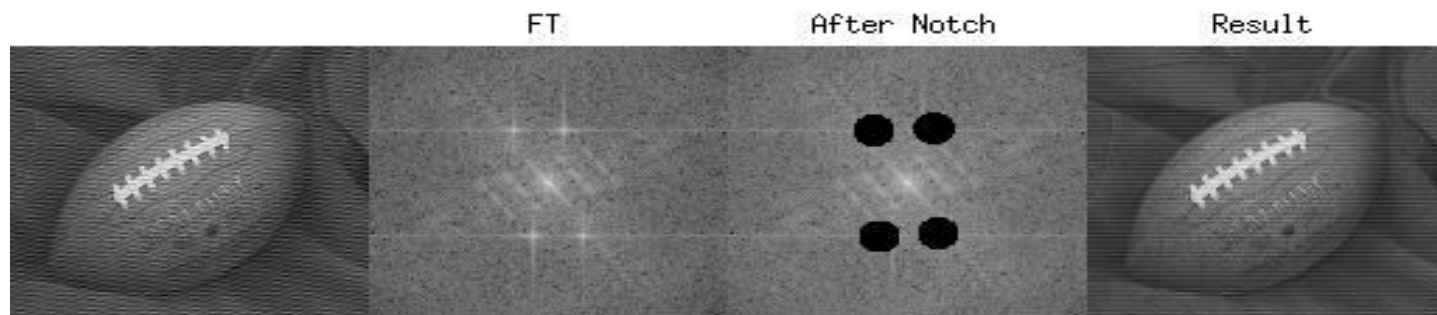
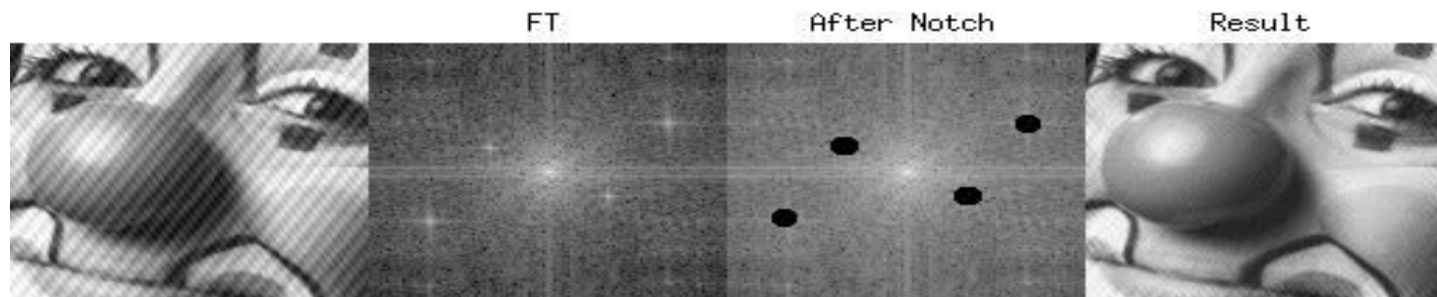
LaplacianFilter



Output Image



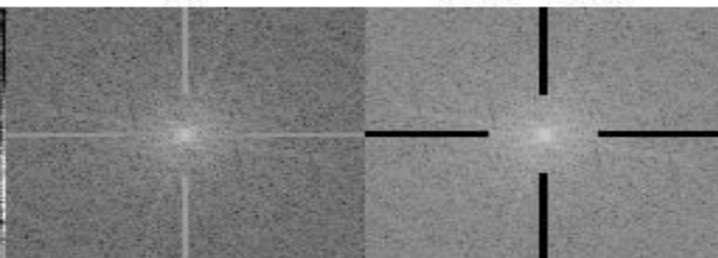
D:Notch Pass/Reject filter



FT



After Notch



Result

