Report: Assignment-03

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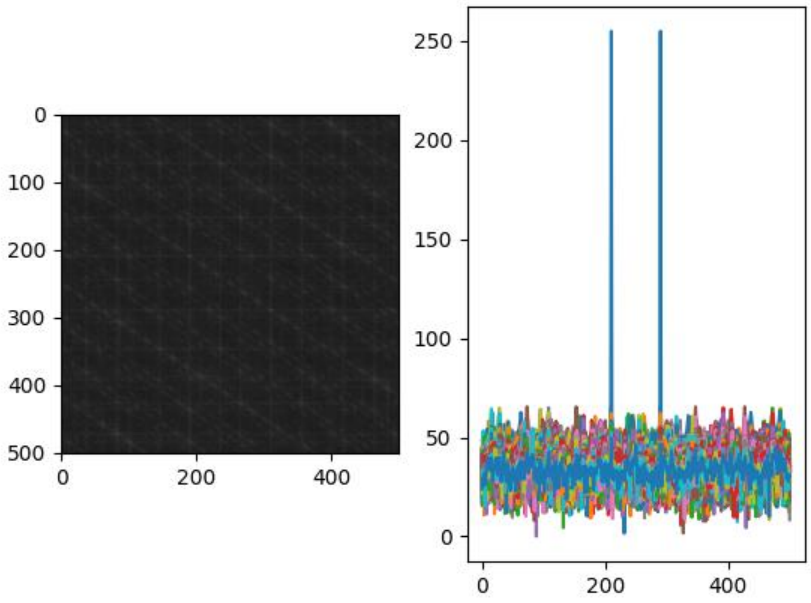
MTech-AI

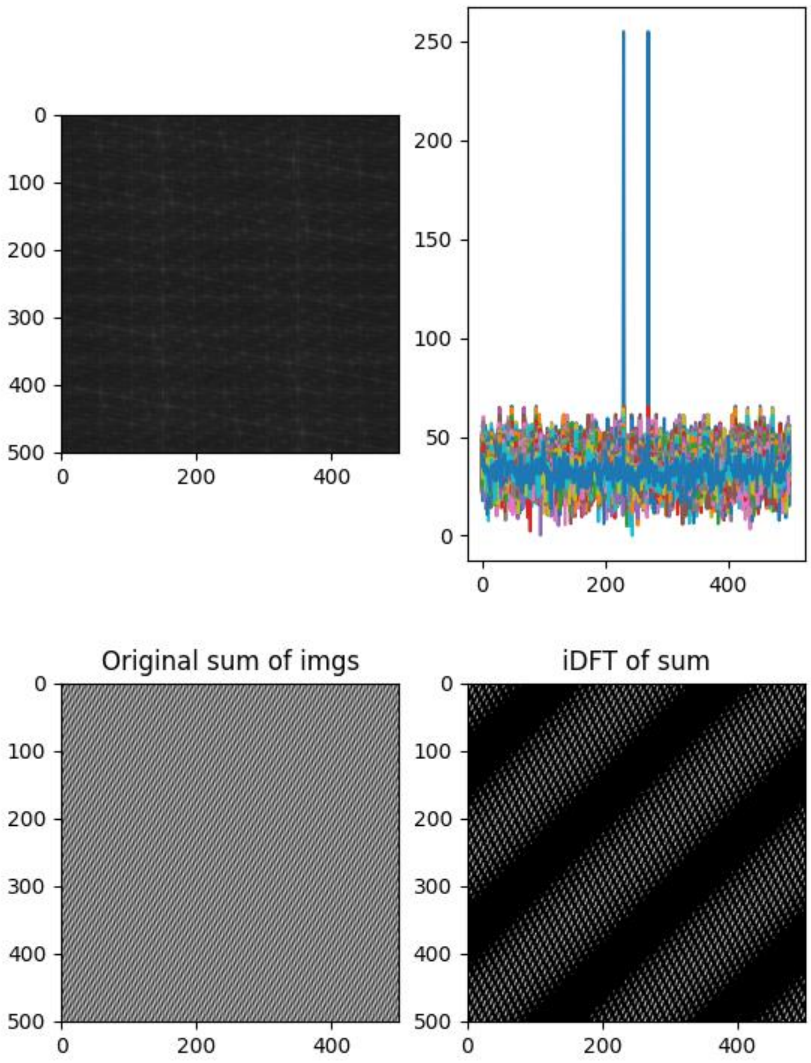
Sol-1.

A) Output: -

u, v = 40, 60



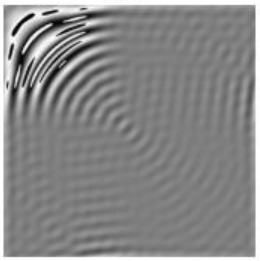
u, v = 20, 100



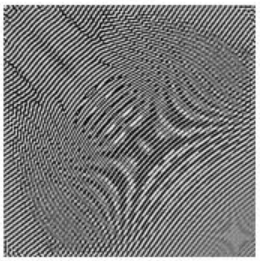
B) Output: -

for D0 = 100, filtered Images

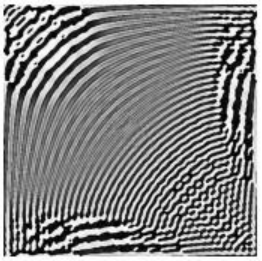
ILPF



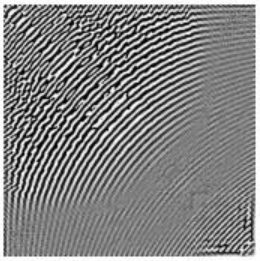
IHPF



IBPF-1

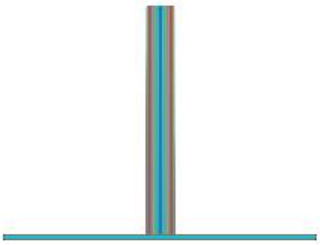


IBPF-2

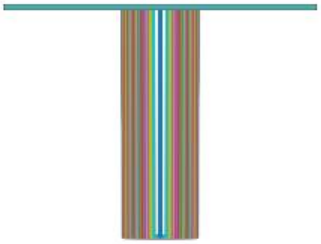


And filters...

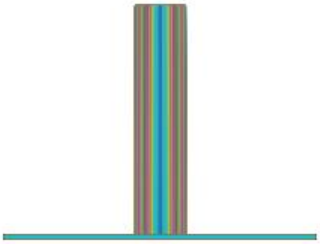
ILPF



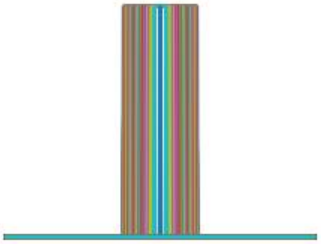
IHPF



IBPF-1

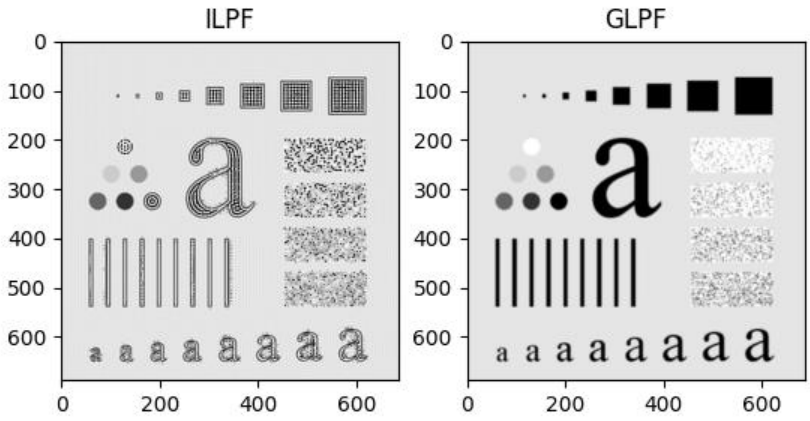


IBPF-2



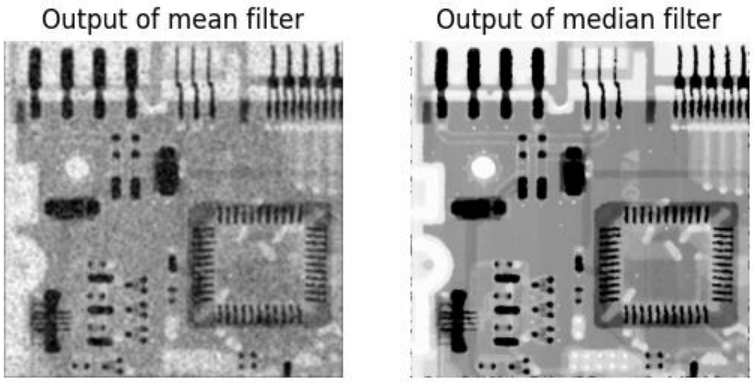
C) Output: -

D0 = 100



Sol-2.

A) Output: -

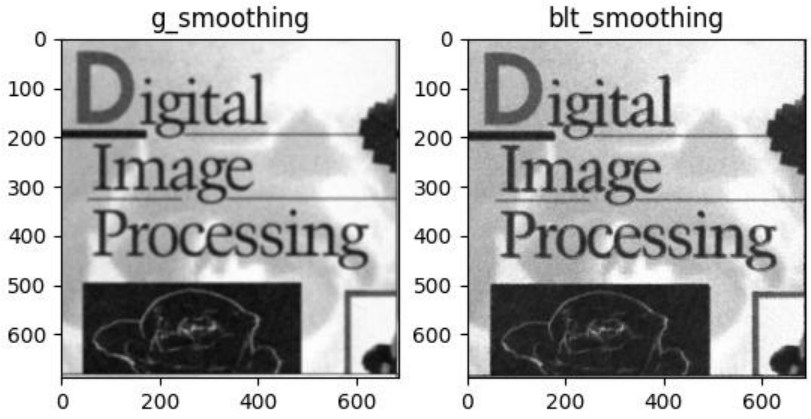


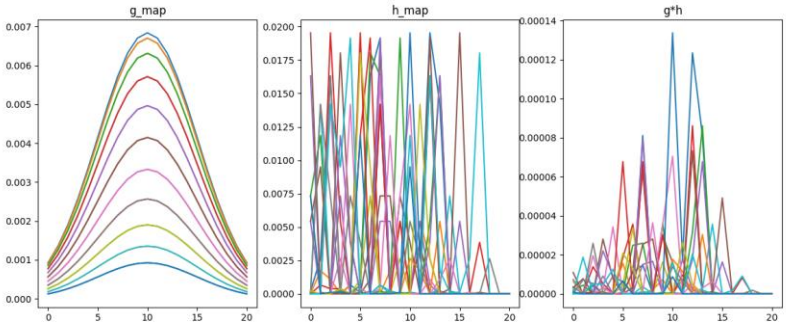
B) Output: -

Use Gaussian function for both spatial weights G(.) and the luminance distance weights H(.)

As G(x, y) = guss(s, x, y)

H(m, n) = guss(img[m,n]-img[i,j])





Sol-3

For A matrix, we use

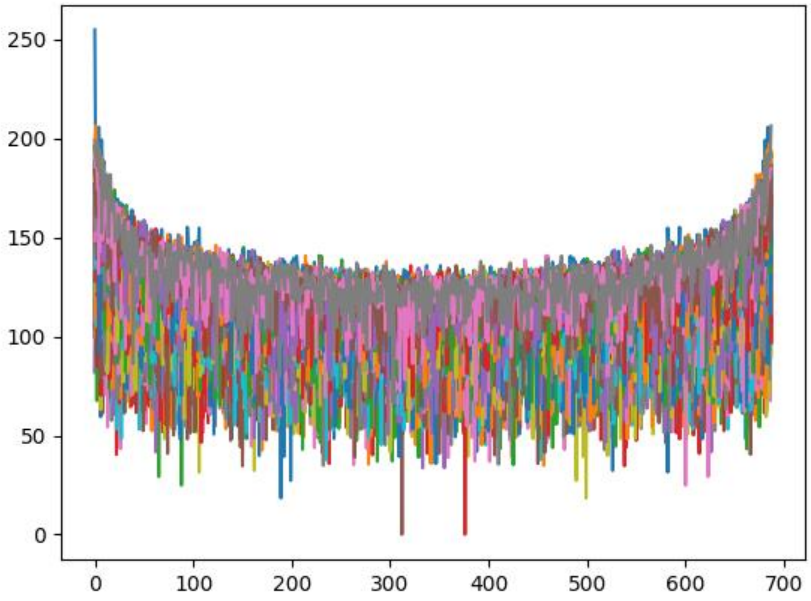
exp ((-2 * pi * 1j) / N) ^ r

Here -r is an array of N size (like 0,1, 2,….N-1)

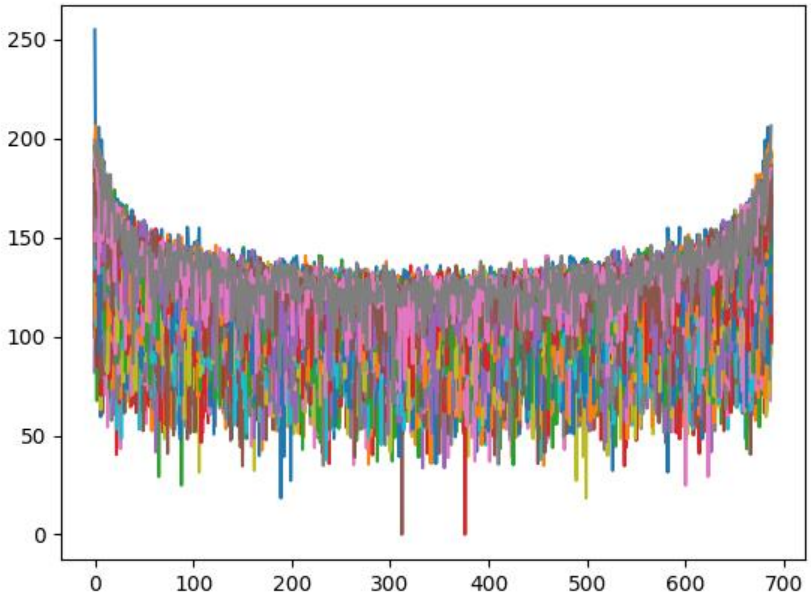
Output: -

MSE = 300.11337 (avg along axis = 1)

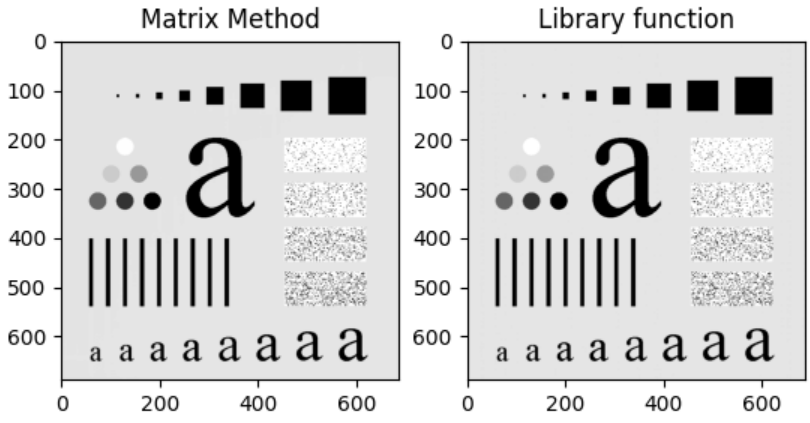
From matrix method ...



From lib function ...



Final output …


Matrix Method
Library function
0
100
200
300
400
500
600
0
200
400
600