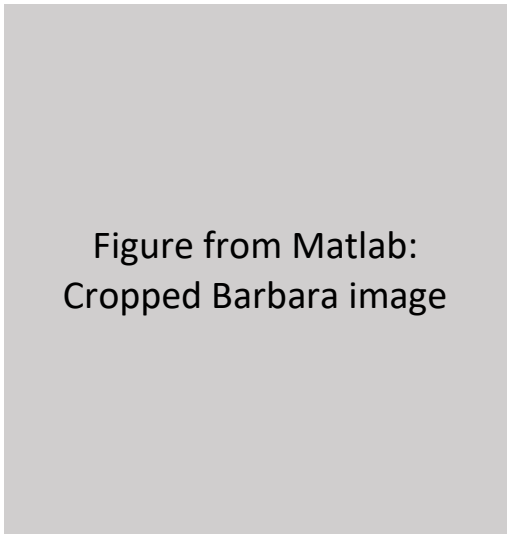
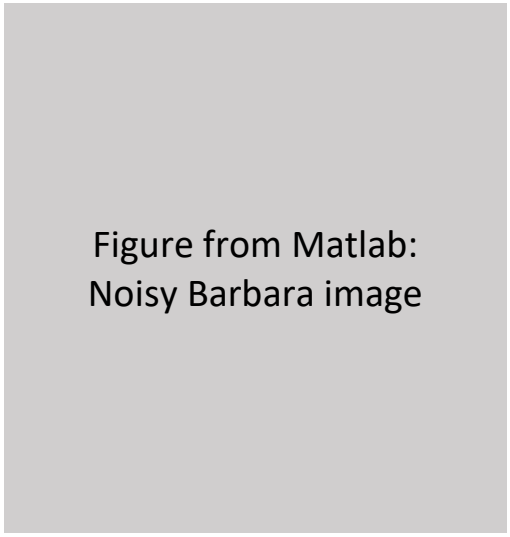
Final Project Report

Part A: Data Construction and Parameter-Setting:





Insert PSNR value of noisy image:

Part B: DCT Dictionary

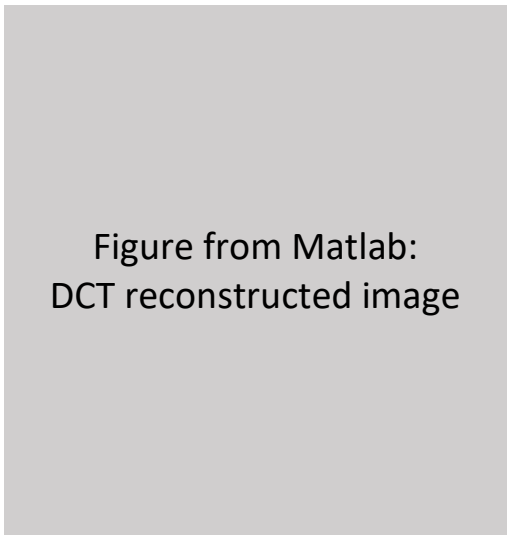
How is the error constraint satisfied for each patch in batch mode?

Insert average MSE of the reconstruction:

Insert average number of non-zeros of the reconstruction:

Discuss the obtained values below:

DCT reconstructed image:



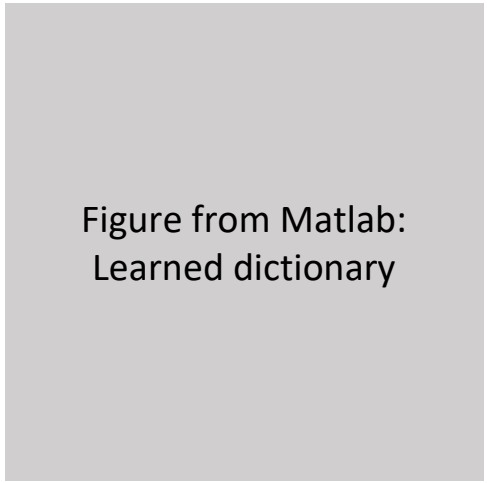
Enter epsilon value:

Enter PSNR of reconstruction:

Discuss the obtained results below:

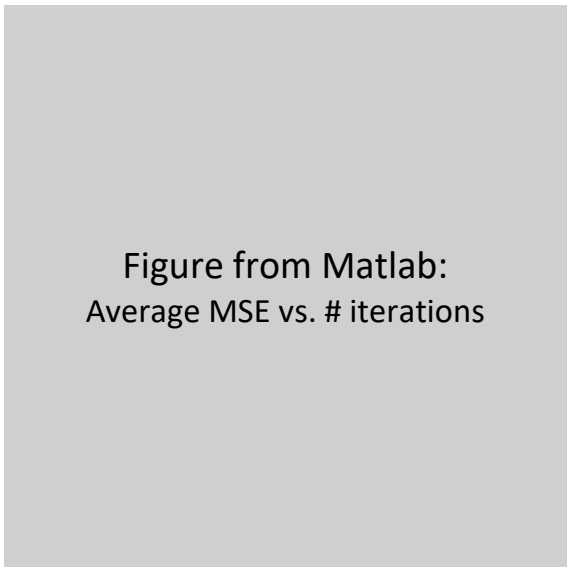
Part C: Procrustes Dictionary Learning

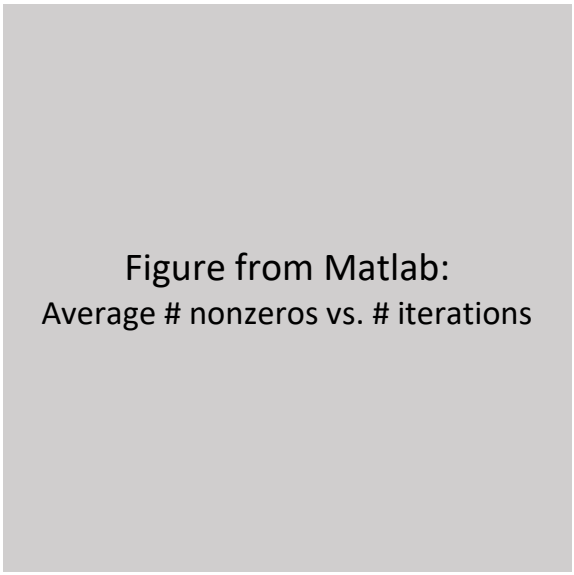
The obtained learned dictionary:



Discuss the obtained dictionary:

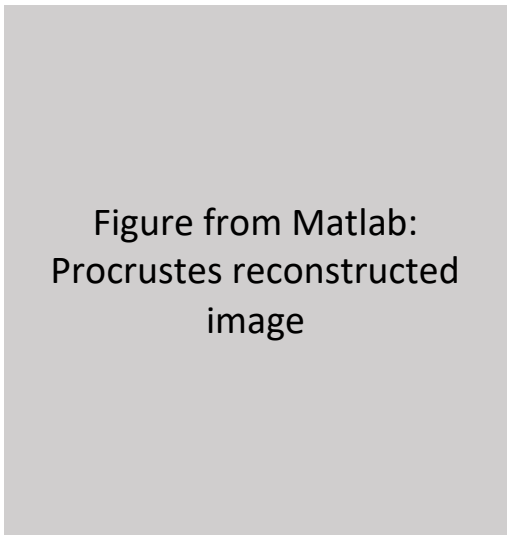
Average MSE and number of nonzeros as a function of the iteration:





Discuss the obtained curves:

Procrustes reconstructed image:



Enter epsilon value:

Enter PSNR of reconstruction:

Discuss the obtained results below:

Compare the results of the DCT dictionary and the learned dictionary:

Part D: SOS boosting

SOS-boosted reconstructed image:

Enter epsilon value:

Enter rho value:

Enter PSNR of reconstruction:

Discuss the obtained result and compare to DCT and learned dictionary: