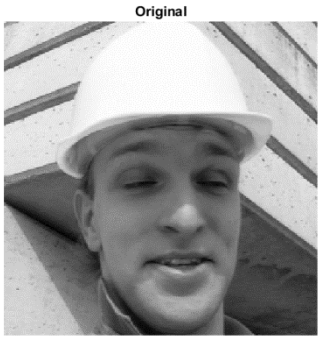
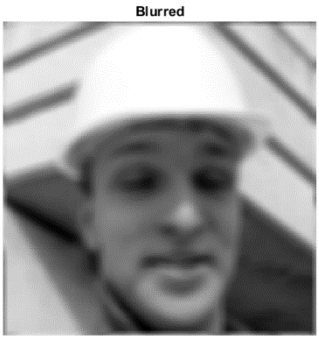
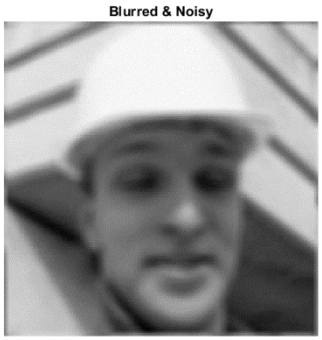
Bonus Project Report

Part A: Data Construction







Insert PSNR value of final degraded image: 26.489

Part B: Deblurring via Regualrization by Denoising (RED)

RED reconstructed image:

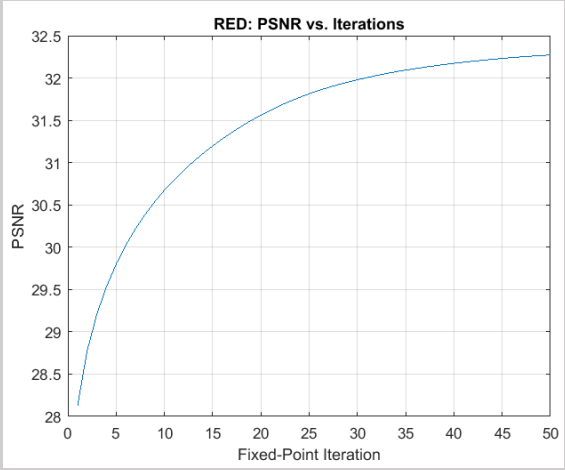
RED reconstructed image

Enter PSNR of reconstruction: 32.272

Discuss the obtained results below:

The step size and lambda for which it was obtained better results were 3 and 0.07, respectively. The obtained PSNR was better than the blurry and noisy input image and the image reflects that. If we choose a state-of-the-art denoising algorithm we would have a better prior or image model, and better results.

PSNR as a function of FP iterations:



PSNR as a function of FP iterations

Discuss the obtained results below:

The PSNR increases with as a function of the FP iterations. From the shape of PSNR curve, probably we can say that algorithm did not converge and with more iterations we could achieve a slightly better result.