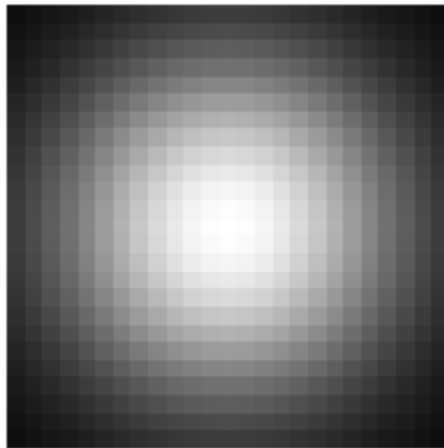# CS 663 – Assignment 2 – Part 3

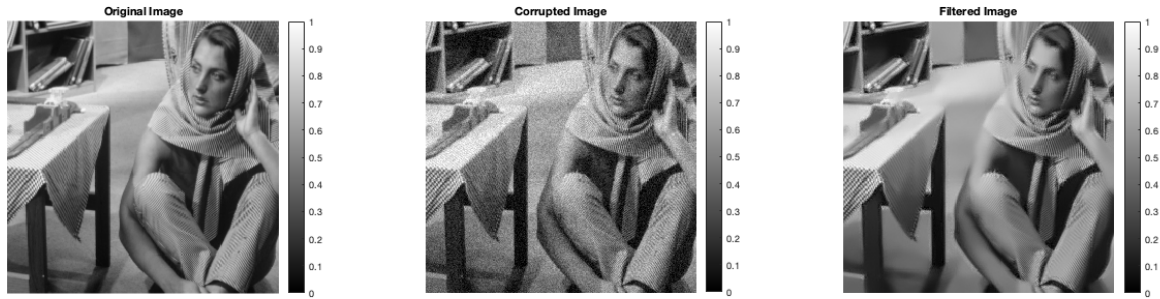Edge-preserving Smoothing using Patch-Based Filtering.

Window Size = 25x25

Patch Size = 9x9

Image1 (barbara) is subsampled by factor of 2. Other two are used on original size.

Spatial Mask is chosen as a gaussian with standard deviaiton 10, so that pixels far away from centre get less weight. The mask is shown below:
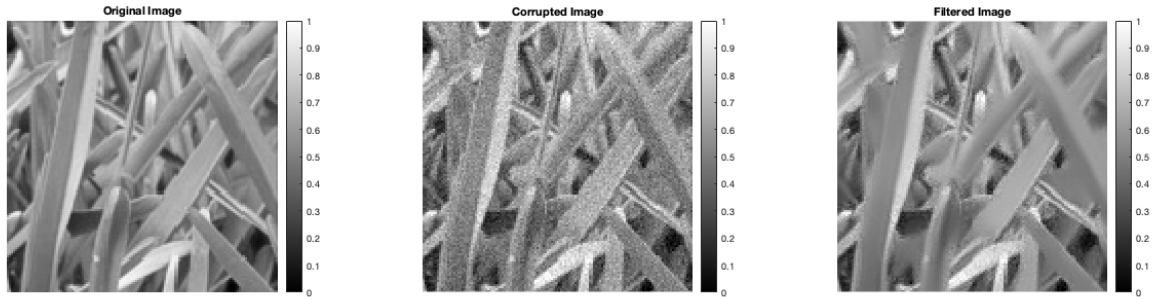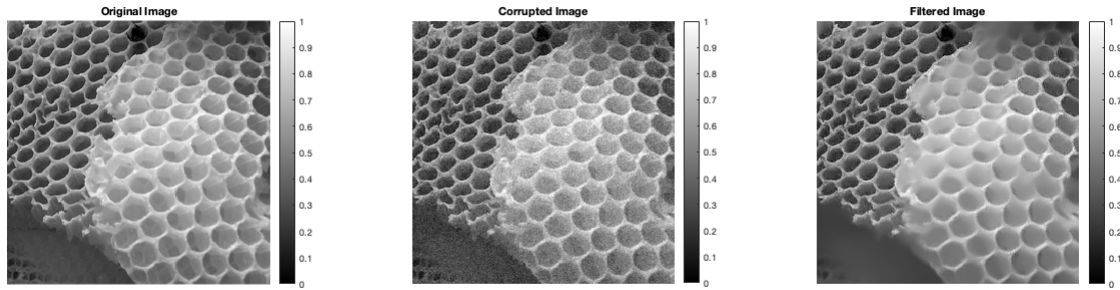
Barbara

Sigma	RSMD
σ* = 0.52	0.028950027854691
0.9σ* = 0.47	0.029624223234140
1.1σ* = 0.57	0.029597998872607

Grass

Sigma	RSMD
σ* = 0.51	0.033901917573931
0.9σ* = 0.46	0.034915103450025
1.1σ* = 0.56	0.035025065661233

HoneyComb

Original Image   **Corrupted Image**   **Filtered Image**

Sigma	RSMD
σ* = 0.53	0.033273926310577
0.9σ* = 0.48	0.034031471497020
1.1σ* = 0.58	0.033870070871155