Write a script (pr08.m) that reproduces Figure 5.14. You should use the image 

Fig0514(a)(ckt_saltpep_prob_pt25).tif

as your input image and then produce the (b) and (c) figures by processing the input image.

Use the `imsmooth` function from the image processing package to produce figure (b). Note that the median processing is done on a 7 x 7 neighborhood.

Write a function named `xx_imadapt` that accepts image a (gray-level, uint8) as an input argument and then returns the image in c (gray-level, uint 8). The function should implement the adaptive, noise reduction algorithm in section “Adaptive median filter” (pps 332-335) of the text book. Your function can use the `padarray` function from the image processing package to pad the input image prior to processing. (Since the algorithm can change the size of the neighborhood during processing I suggest padding to support the maximum possible neighborhood size.)

All scripts should write images out as PNG files as in previous project assignments. Turn in a printed copy of all m-files. Email all m-files (as attachments) to richardson.tony@gmail.com. The email subject must contain “EE499 Project 8” and then your name.

Note: My implementation of the adaptive algorithm (image c) takes 90 seconds on my relatively new, mid-level office desktop and over 120 seconds on a 6-year old, mid-level laptop. So that I can be sure that your function is actually running and not stuck in a loop, your function should display its progress as a percentage in 10% increment. You can use “fflush(stdout)” after any display statements to force the display output buffer to be immediately sent to the command window.