Homework 7—Due Friday, April 25 at 11:55 PM

Instructions: Complete the following tasks. Copy and paste your code and analysis into a DOC/PDF/ODT document (like a lab report). Also upload a script and/or functions files with your code. You will submit this work online through the CROPS assignment page. For the plots, you must use the `xlabel`, `ylabel`, and `title` parameters on every plot to receive full credit.

1. **Median Filter** Use a blurry (or otherwise imperfect) image, and run a median filter on the grayscale image. Show the original image, its grayscale version, and the result after the median filter simultaneouly using `subplot`. Note: while most of this code was done in lecture, your code should properly handle boundary cases. That is, a corner pixel should be replaced by the median of 4 pixels, while an edge pixel should be replaced by the median of 5 pixels.

2. **Growing Gasket** Redo the "Gasket" program from Homework 4, stick with doing calculations modulo 2, but "animate" the image from $n = 1$ rows to $n = 150$ rows over several seconds.

3. **Glowing Gasket** Redo the "Gasket" program from Homework 4, stick with $n = 100$ rows, but "animate" the image from modulo 10 down to modulo 2 calculations.

4. **Tic Tac Toe—One-Player** Revise the Tic-Tac-Toe game that we made in lecture by having the second-player moves (i.e. O's choices) made randomly by the computer program. Hint: use the MATLAB command `randperm(9)` to shuffle the 9 locations. Be sure to mention in your write-up where you made the revisions to your code.