This is a short homework that you can finish before the midterm, locking in recent material about filters and edge detection.

filters and edge detection

I provided the following Matlab functions for filters and gradients.

- df.m
- filterWithGaussian.m
- gradientDir.m
- gradientMag.m
- medianFilter.m

Implement these functions in Python/OpenCV. To accompany each function, develop illustrative test data and test calls (at least one for each function). Write each function (with test calls) in a separate script, to make it easy to demonstrate. Use a standard Python script (foo.py), not Jupyter notebooks.