HW 4 Report

**Apply Filter**

A generic python package that accepts a filter and whether or not it is centered already and applies the filter to fourier transform of the image.

The image will be padded to be 2n x 2m where n and m are the original size of the image. Then the image will be transformed into the frequency domain

for filter application and brought back after the filter is applied.

**Gaussian High Pass Filter**

Python package to create a Gaussian High Pass filter. Centered. Output image is dim because I did not include the average intensity.

**Gaussian Low Pass Filter**

Python package to create a Gaussian Low Pass filter. Centered. Image is blurred.

**Ideal High Pass Filter**

Python package to create an Ideal High Pass filter. Not entered. Edges are visible. Ripple effect also visible.

**Ideal Low Pass Filter**

Python package to create an Ideal Low Pass Filter. Not centered. Image is blurred. Ripple effect visible.

**Laplacian Filter**

Python package to create a Laplacian Filter. Centered. Edges are visible. Average intensity not included.

**Laplacian of Gaussian Filter**

Python package to create a Laplacian of Gaussian Filter by multiplying the Laplacian Filter with the Gaussian filter. Image is a blur of the original image with the edges visible.