1. The objective of this project is to enhance the image (chest.jpg) using high-frequency-emphasis filtering. Use a high-pass gaussian filter with various variance values to highligth the edges. Then superimpose the filtered image on the original image to obtaim an enhanced image. Your project should have the following steps.
2. Multiply the input image by to center the transform for filtering.
3. Multiply the resulting (complex) array by a real filter function (in the sense that the the real coefficients multiply both the real and imaginary parts of the transforms). Recall that multiplication of two images is done on pairs of corresponding elements.
4. Compute the and show the centred spectrum.
5. Use your result in (b) to compute the average value of the image original image
6. Compute the inverse Fourier transform.
7. Multiply the result by and take the real part.

2 The moon image (Moon.jpg) is corrupted by a single, 2-D additive sine wave. The Fourier transform of a pure sine wave is a pair of complex, conjugate impulses, so we would expect the spectrum to have a pair of bright dots at the frequency domain (periodicNoise.jpg). Determine the location of these impulses accurately, and eliminate them using a notch filter transfer function whose notches coincide with the location of the impulses.