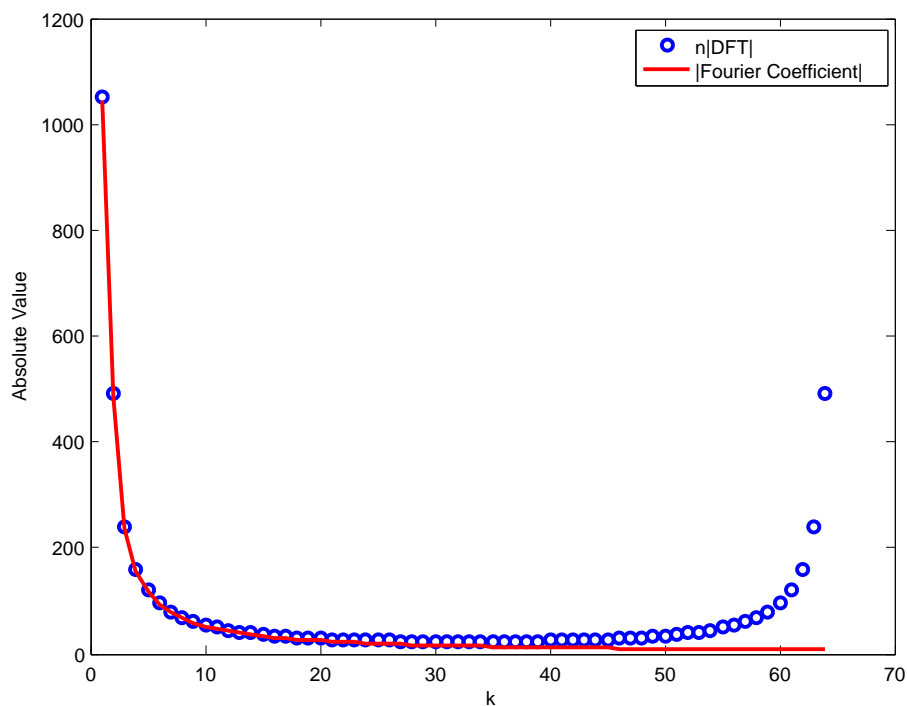
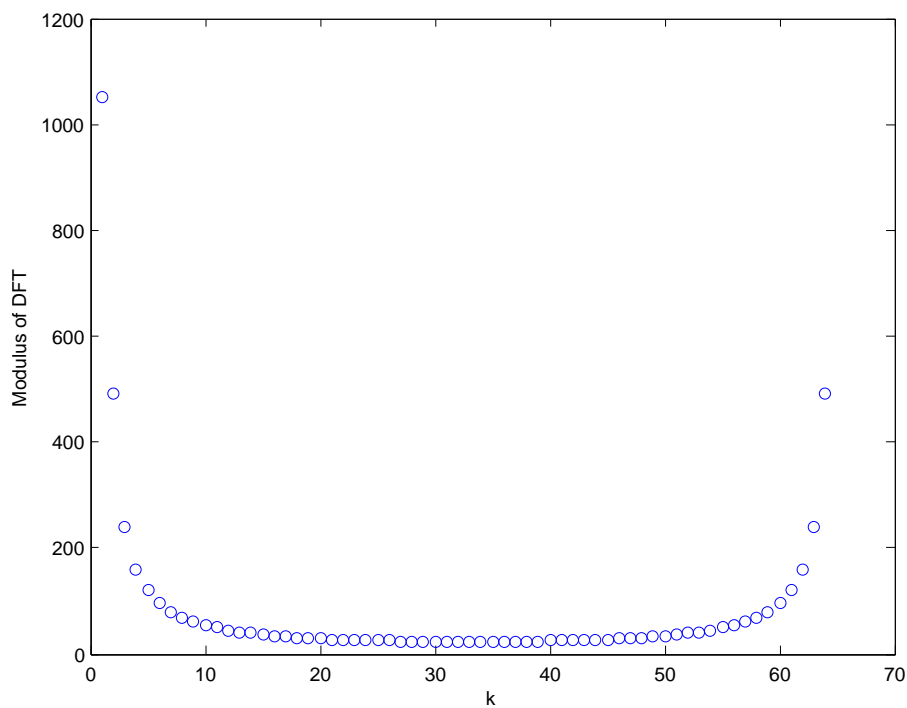


Fourier Coefficients of $f(x) = x + x^2$ vs. n times the DFT (magnitudes)



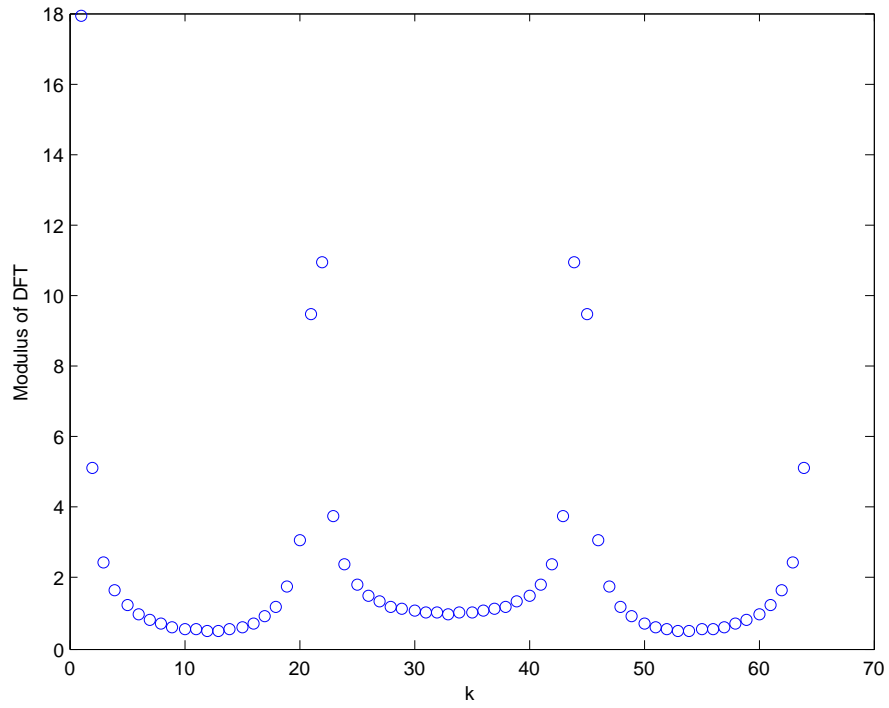
See that the approximation is not good for large n

The magnitude of the DFT of $f(x) = x + x^2$



See the graph is symmetric.

The magnitude of the DFT of $f(x) = \sin(10.2x) \cos(10x)$



See this graph is symmetric too.