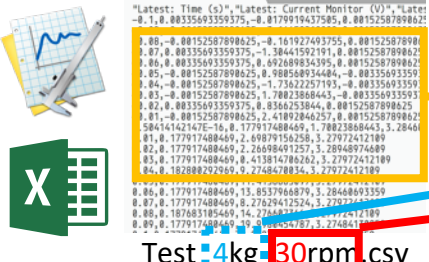# 2.671 Wiki: Data Analysis with MATLAB - https://wikis.mit.edu/confluence/display/2DOT671/MATLAB

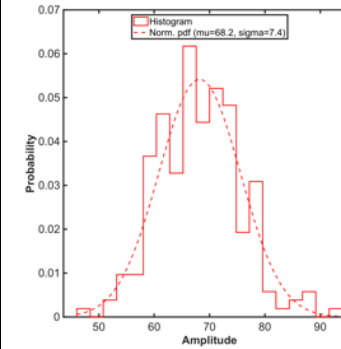| MATLAB Wiki Section/ Script function examples	Input/Starting point	Output/Destination
Reading data files (MATLAB Wiki Tab) • CSV file to variables • Read several data files automatically • Extract values from filename		
Pre-processing data • Breakdown a stream of data into smaller segments • Filter out noise • Handle missing or erroneous data	 	

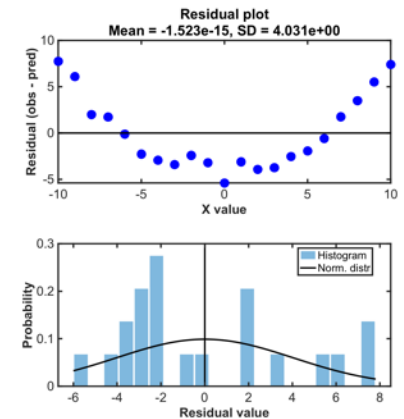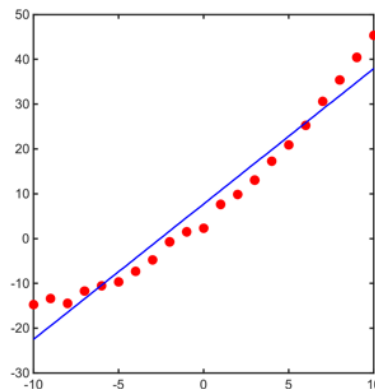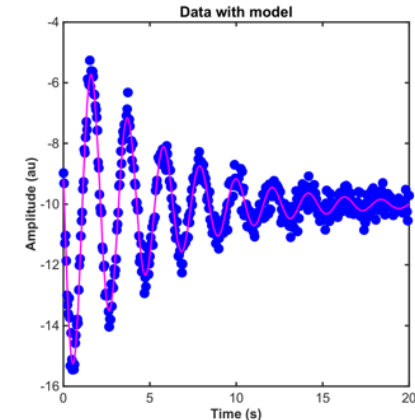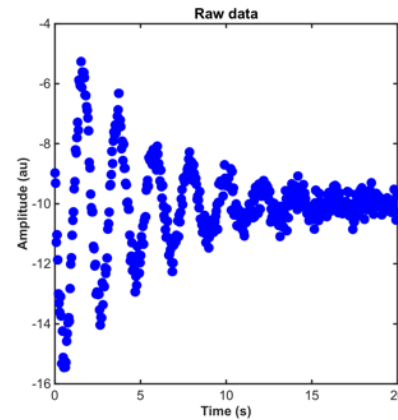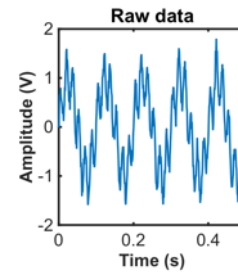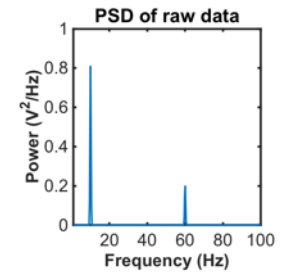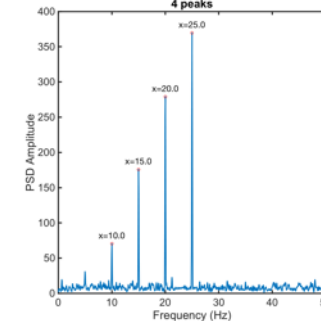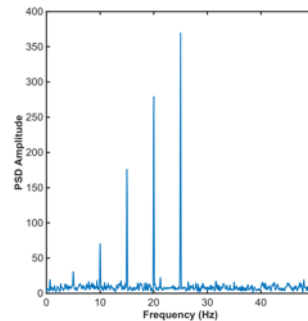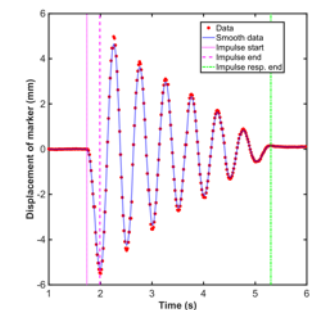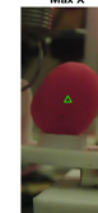|		
Statistics • Mean, standard deviation, histogram • Uncertainty (confidence intervals) • Hypothesized mean difference • Propagation of uncertainty		$$\mu, \sigma$$$$a \pm u_a$$
Curve fitting • Line, sine, exponential, damped sine, sigmoidal, arbitrary curve fit • Plotting residuals from curve fit		

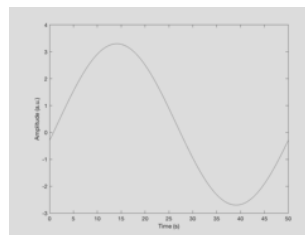| Bode plots, PSD and FFT	Time domain		Frequency domain	
Other topics • Finding peaks				
Other topics • Video analysis • GUI elements				
Plots and Graphs • improvePlot • Saving figures automatically • Shading area • Multi-line titles or axes				
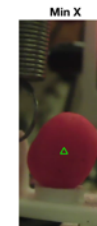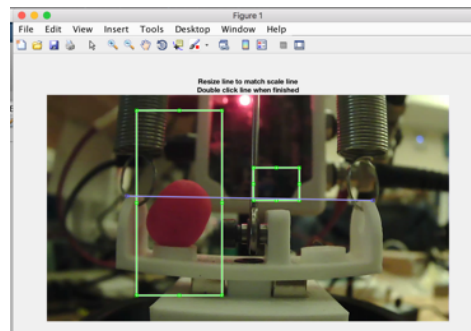
Please contact Dr. Kevin Cedrone (kcedrone@mit.edu) if you would like help writing, troubleshooting or adapting something from the MATLAB wiki for your 2.671 project.