ASE 211 Homework 6

Due: 12:00 noon, Friday, March 3.

1. Given the following data

i	x_i	y_i
1	0	2
2	1	-1
3	1.5	0
4	2.2	1.6

First, compute the linear interpolant of the data, then compute the Lagrange interpolant. For the Lagrange interpolant, give the value at $x = 2$.

2. Write a Matlab code which allows a user to input data points, constructs the Lagrange interpolant, and plots the interpolant over the interval from x_1 to x_n (assuming the data is ordered so that $x_1 < x_2 < \ldots < x_n$.) Test your code on the data in problem A8.11 and plot the approximation to enthalpy E versus temperature T.

Hand in all matlab m-files and diaries.