

EXERCISE 1

- Write a Matlab function `c = linear_regression(x,y)` that computes the coefficients of the line that fits the input points (x_i, y_i) , $i = 1, \dots, n$, in the least squares sense. Compute the coefficient vector c by solving the system of normal equations.
- Test the above function on the data in the file `least_squares_data.mat`. Make a graph that representing the data points and the line.
- Write another function `c = quadratic_regression(x,y)`, similar to the previous one but where a polynomial of degree 2 is used for the fitting. Plot again the results for the data points above.