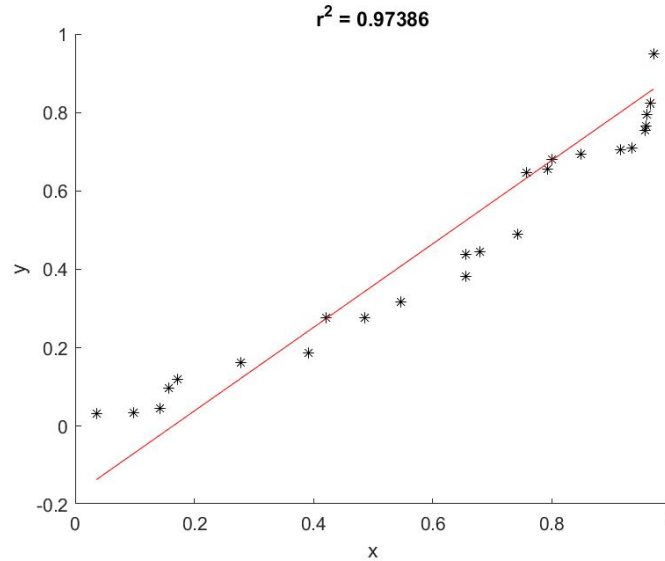


You should hand in your script files and a copy of your plot.

Write a MATLAB script that will read in a data file (use the one from Homework 19) and perform a best-fit line calculation. Your script should create a plot of the raw data and best-fit line. It should also display the r^2 value for the best-fit line in the title bar. Your result should look like the one below



You should use as many built-in MATLAB functions as you can.

- Use `polyfit` to get the slope and y -intercept of the best-fit line
- In order to plot the best-fit line, you will need to compute some points that lie on the line. Use the `polyval` function to calculate these.
- Use the `cov` and `std` functions to get the covariance and standard deviation.
- The r value is defined as (assuming your data vectors are x and y)

$$r = \frac{\text{cov}(x, y)}{\text{std}(x) \text{std}(y)}.$$

where `cov(x,y)` is the covariance of x and y and `std(x)` and `std(y)` are the standard deviations of x and y respectively.