Adv labs. **Linear fitting in Matlab**

In the next pages you can find a small piece of code to plot and do linear fitting in Matlab. There are many ways to do this. If you ask Dr. Yanasak, he will tell you this is not the best way to do it, but I'm not an expert…

The code is pretty self-explanatory, and you can see the final plot.

You can figure out the non-linear fitting from here….

```
close all
clear all
clc

%% Plotting data and linear regression

% Write your data. This is the most general data form...

x = 1:10:100; %x data
y = [20 30 45 40 60 65 80 75 95 90]; % y-data
yneg = [1 3 5 3 5 3 6 4 3 3]; % y-error bar negative side
ypos = [2 5 3 5 2 5 2 2 5 5];
xneg = [1 3 5 3 5 3 6 4 3 3]; % x-error bar negative side
xpos = [2 5 3 5 2 5 2 2 5 5];


%% Fitting

lm=fitlm(x,y,'poly1');              % 'poly1' a linear model; remove the semi-colon to the see the
fitting parameters in the screen
coeff=lm.Coefficients.Estimate;  % fitting coefficients

%%Plotting

figure
errorbar(x,y,yneg,ypos,xneg,xpos,'o') % error bar plot
xlabel('x-axis') % label your axis
ylabel('y-axis') % label your axis

yFit=coeff(1)+coeff(2)*x; % fitting line

hold on % to plot on top of the error bar plot

plot(x,yFit,'k-') % fitting line plot

legend('data','fit') % add a legend
```