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% Homework 1
%
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% Date: 20180116

figure(1);

% plotting x-y plot
subplot(1,2,1);
p1 = polyfit(x,y,3);
y1 = polyval(p1,x);
plot(x,y,'.k',x,y1,'r')
title('Linear-Linear');
grid on;
xlabel('X');
ylabel('Y');
hold on;

% plotting x-log(y) plot
f = log(y);
subplot(1,2,2);
p2 = polyfit(x,f,1);
y2 = polyval(p2,x);
plot(x,f,'.k',x,y2,'r')
title('Log-Linear');
xlabel('X');
ylabel('Log(Y)');
grid on;
y2Str = strcat('Best Fit: y = ', num2str(p2(1),1), 'exp(1x)');

sgtitle('HW1 Problem1; J.M. Aurnou, 10-Jan-2019');
legend('Data: y = exp(x) + noise', y2Str);

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