I first began my MATLAB code by brainstorming a plan for implementation. I decided to do a menu-based program using several nested switch cases, as I have programmed those in the past. I wanted this program to be user-friendly, so I constantly cleared the command window of text to make the interface less cluttered.

I was able to complete the data-loading menu by the first checkpoint. It worked well. I tested it by loading the mgtemp.txt file from a previous ICA. It was pretty easy to do, although I did have a bit of trouble figuring out how to start reading at "START". We did a demonstration of that in class, though, so it ended up okay.

The graphing menu is only supposed to be accessible after data has been loaded via the data-loading menu. Later, I also added an if-else condition that would check for a name for the output .pdf before letting you access the graphing menu.

The graphing menu is basic.

The line-of-best-fit menus, however, were the worst thing I've ever had the displeasure of programing. The polynomials were easy to handle, until I found out that we had to be able to graph several of them on the same graph, as well as display the entire equation. But that was all child's play compared to the programming required for the second page of line of best fits. I believe in the power of Google and consider myself pretty adept in the art of the advanced search, but even Google couldn't tell me how to fit a line to logarithmic data. This section was hell to code. I don't know what I'm doing.

I chose to split up my code into several scripts because I like feeling organized. This project was just *so* complicated, I would've gone nuts if I'd tried to keep it all in the same script. Additionally, some of the scripts, like mse.m, were used very often with the polynomials. I made

one function, print_equation, because I felt it'd be easier to get the results I wanted using a function.

I tested my code at first by using mgtemp.txt, which worked well to test the polynomial line of best fittings. I then used p6data.txt and power_test1.txt to test the other functions.