Questions

1)
- Question: **Line 19** presents an alternate way of plotting the log of a variable. Looking at line 19 and its output compared to line 18, what might be a problem with using this method for presentation? (*Hint: if you don't see the issue, also consider the output from line 17.*)
- Answer: The alternate way presented in Line 19 uses just the variable name. The method we have used (and used in line 17) uses a new variable name that indicates the variable is a log. Without adding a caption or explanation the new method could easily mislead your reader into believing that they are looking at the data for an untransformed variable.

2)
- Question: **In line 30**, I introduce a new R function to handle something we've been doing manually. Open the help file for the new function. Copy and paste the definition for any of the function arguments that look interesting. (The arguments are the things inside the parentheses when you call the function.)
- Answer: Anything is fine. Continue to use the help function to familiarize yourself with new functions and in the process to reinforce the language you need to find help with R issues.

3)
- Question: I've included a graph of some polynomial patterns in the **Additional Resources** folder/directory. If you have a scatterplot that seems to indicate the effect changes direction twice, what degree of polynomial or name of function would this be? If it changes direction three times?
- Answer: Degree 3 or Cubic; Degree 4 or Quintic

4)
- Question: Why would a quadratic (or other polynomial) model introduce multicollinearity?
- Answer: Because in a quadratic function, X^2 is a function of X. The two are *necessarily* related. Adding additional terms which are also functions of X would increase the effect.

5)
- Question: Export the final plot from lines 80-83 and insert it here.
- Answer:

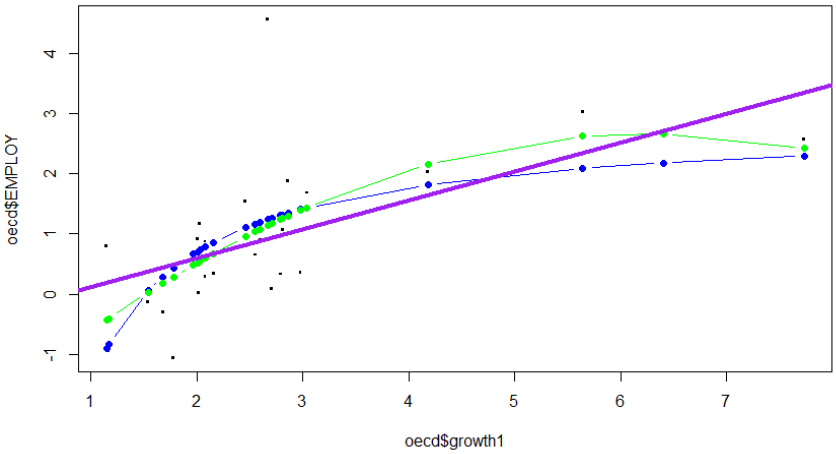

Figure 1

- Sample Code for LaTeX

```
\begin{figure}[H]
\centering
\includegraphics[width=0.7\linewidth]{Rplot}
\caption{}
\label{fig:rplot}
\end{figure}
```

Extra Credit

- Question:
- Take a look at the help file for the new function introduced in line 30, *source*, and tell me how you would change the code to use the *chdir* argument instead of *here* to load this file. Note: this would be useful to you if you are using someone else's code that didn't use *here*, but it won't actually make your code useful for someone else.
- Answer: source(" /POLS6481-Spring2021-UH-lab/Other Scripts/white-test.r", chdir = FALSE) would open the file from the directory and leave the working directory unchanged. source(" /POLS6481-Spring2021-UH-lab/Other Scripts/white-test.r", chdir = TRUE) would open the new file and temporarily run all functions using /POLS6481-Spring2021-UH-lab/Other Scripts/ as the working directory. This could be useful if you wanted to write results to that directory or *source* several items from the same directory. For example, if you wanted to *source* multiple data files.
- Note: Again the major point here is that there is a lot of detail in these help files. But you'll also notice that there is a jargon to how the help files are written and you'll often need to use that jargon if you need an answer to a question. Sometimes just using the right jargony keyword in a search engine can mean the difference between finding a simple solution and struggling with a problem.