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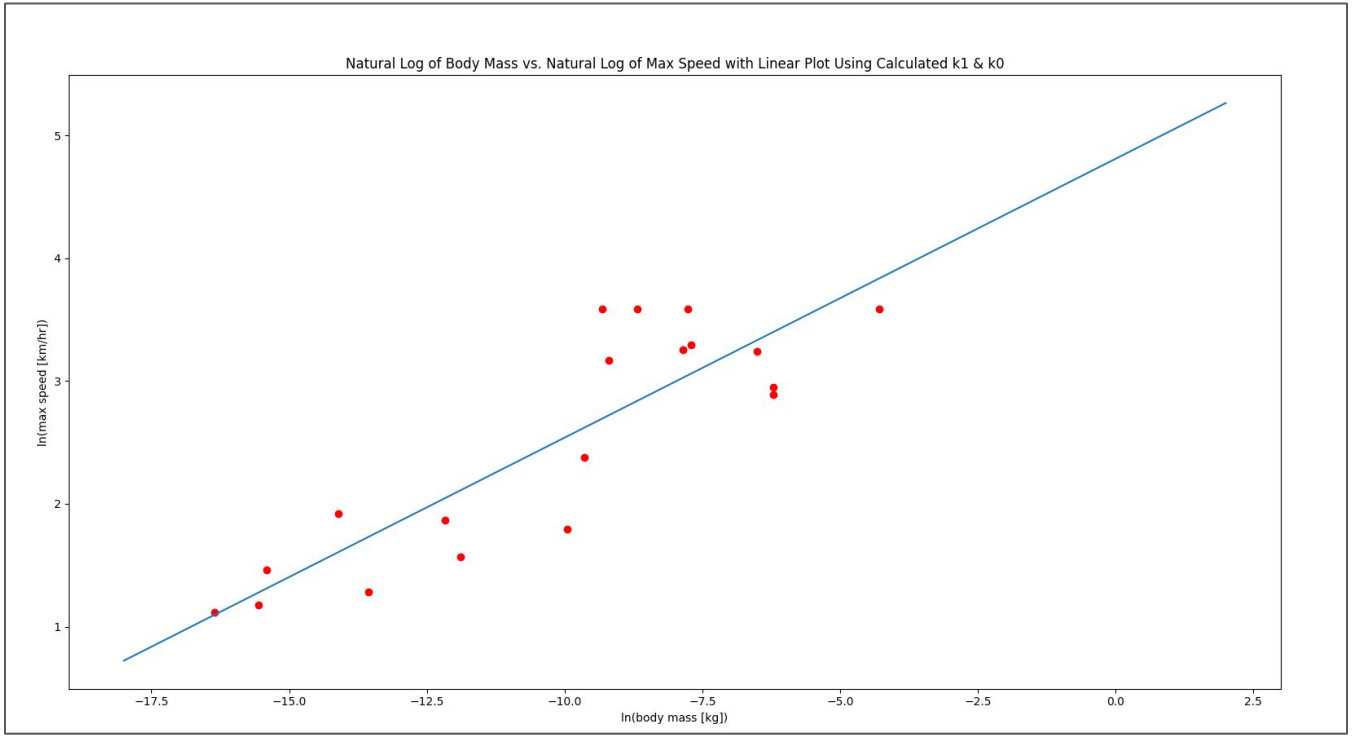
Program Explanation: My plan for this program was to isolate most of the individual calculations/steps and then string them together in a linear way to generate an end result. In this case, I didn't use any functions outside of main() (mostly due to the fact that I was having trouble creating global variables manifested as arrays). To organize things better, I used matrices to store calculated values- this helped with my ability to access specific things and keep the code organized. Overall, the process was quite seamless, and the coding itself was quite easy. I had to double check some of the linear algebra, but I believe I have executed it correctly (as seen in the next slide). For some reason, my k1 and k0 values worked well as exponents and coefficients respectively, but when converted back to the original power rule form, the fit wasn't quite as well done. As an aside, I made sure to use for loops and other tools learned in the first week's lecture to write this code.



This figure shows the given data (as natural logs) scattered with the linear best-fit line (in the form log(z) = k0 + k1*log(u)) plotted over the top. This shows a reasonably good fit, implying that the k0 and k1 values are also reasonable. This plot was generated in Python using numpy and matplotlib.

Challenges: Overall, this assignment wasn't particularly challenging. The coding was somewhat straightforward, though C is much more finicky than other languages I have worked with before (namely Python and MATLAB). I believe my "c" and "a" values might be wrong (based on the fact that, plotted in the form z = c*u^a, the curve did not match the data points reasonably well), while my k0 and k1 values are correct. This doesn't make much sense to me, as I used the exp() function to convert the two values with success. This might just be a linear algebra oversight or misinterpretation on my part.

```
E:\GT_Courses\Semester_1\CSE-6010\Assignments\Assignment_1\A1_CLion\cmake-build-debug\A1_CLion.exe
The power law exponent is [1.255] and the coefficient is [122.620]
The k1 value is [0.227] and the k0 is [4.809]
```