Deliverable 1

* Which variables/coefficients provided a non-random amount of variance to the mpg values in the dataset?

Vehicle length, ground clearance, AWD

* Is the slope of the linear model considered to be zero? Why or why not?

No bc the coefficients are not zero and the P value is very small.

* Does this linear model predict mpg of MechaCar prototypes effectively? Why or why not?

Somewhat because r^2 value of 0.68 is closer to 1 than 0.

Deliverable 2

* The design specifications for the MechaCar suspension coils dictate that the variance of the suspension coils must not exceed 100 pounds per square inch. Does the current manufacturing data meet this design specification for all manufacturing lots in total and each lot individually? Why or why not?

Yes because the variance is less than 1.

Deliverable 3

briefly summarize your interpretation and findings for the t-test results. Include screenshots of the t-test to support your summary.

* Total sample Not statistically different because it is over 0.05
* Lot 1 Not statistically different because it is over 0.05
* Lot 2 not statistically different because it is over 0.05
* Lot 3 is statistically different because it is under 0.05

Deliverable 4

I will test the predictors of linear regression

* What metric or metrics are you going to test?
* We will do a linear regression test with MPG, cost, and horsepower as dependent variables and the independent variable will be the weight, length, wheel size, trim level, horsepower.
* What is the null hypothesis or alternative hypothesis?
* Null hypothesis is the dependent variables correlate to the independent variables with P < 0.01
* What statistical test would you use to test the hypothesis? And why?
* Linear regression looking at P values.
* What data is needed to run the statistical test?
* Multiple models from the competition providing dependent variable and independent variable.