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CS301

CS301 Project: Individual Contribution 4

See the project repo at <https://github.com/flexadecimal/cs301-project> - specifically, 'deliverables.ipnyb'.

For the third and fourth parts of our project, we answered the questions we defined in our first deliverable. I divided up the three questions for the three other group members, and assisted them when they had trouble. Solutions to these questions required filtering by mods, so I wrote additional supporting code to filter by mods.

To recap the work of the third deliverable: for each question we answered, we created graphs. For question 1, we graphed the “off the line” power integrals for 1/2 and 1/8th mile drag races in order to find the most powerful cars that would do well in such drag races. It turned out that user JRink had top performing runs, albeit with different mods. For question 2, we determined the ratio of power (by taking the total integral of the horsepower curve from comparable runs, i.e. similar mods) over fuel cost for the different types of fuel we have – discounting one run on ed95, a diesel/ethanol fuel, we graphed the power/cost ratio for e85, pump gas, and race fuel. For question 3, we performed a quantitative lag analysis on the top 10 turbos in the td04 and td05 turbo classes by taking the derivative of the horsepower curve. We then graphed the top 10 turbos (those with least lag) in each class together.

Part 4 specifically involved integrating the feedback given to our group – the drag race question and fuel power/cost question – we were not given any critical feedback. For the third graph, the td04/td05 turbo top 10 comparison, I changed the width of the bars for a more pleasing look.