**Project Proposal**

**Project Proposal Title:** *Affordability of 2023 Vehicles by median household income*

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**Description/Outline:**  
There are many factors that contribute to the cost of a vehicle, but during and post pandemic, we find that the average cost of a vehicle is affected by the manufacturing supply availability, the United Auto Workers (UAW) Union strike, the lack of inventory, etc. Not only is the cost of a vehicle increasing, but our groceries and gas prices are also rising, with no major change to the minimum wages for Americans, which leaves us wondering how we can afford a new vehicle. We will be taking a dive into the 2020 census data and the data for current 2023 vehicle prices and figure out what types of vehicles the median household can afford.

**Questions to Answer**

* What is the average median household income for each region?
  + Will do an analysis of affordability broken down by geographical regions.
* What is the average vehicle price for each manufacturer (which make/models)?
  + Will do an analysis of affordability by vehicle make/model.
* Which manufacturer has the most affordable car line/model?
* Based on the price of the vehicle, what would the monthly payment be?
* Based on the median household income, which vehicles would be affordable assuming the monthly payment is 10% of their gross monthly income?

**Data to Be Used**  
2023 American Vehicle Prices  
Census Data

Vehicle information from the Office of Energy Efficiency.

**Assumptions**

* Households can afford 10% of their income for a new car payment.
* Median household income is assumed to be gross income.
* Recent census data is from 2020, so we acknowledge there will be a discrepancy in the median household income while we look at 2023 vehicle prices.
* For a 72-month loan and a 9% interest rate, what would be the monthly payment?