I am designing and implementing a database that records data on vehicles and their CO2 emissions.  
  
The design of the database will consist of the following entities:

* Vehicle(supertype)
* Engine
* Person
* Address
* VehiclePerson
* Electric(subtype)
* Gas(subtype)
* Hybrid(subtype)

These are the relationships between the entities:

* VehicleContainsEngine
* VehiclePersonOwnsVehicle
* VehiclePersonIsAPerson
* AddressHasAPerson

With these entities and relationships, I hope to answer the following questions:

* Which vehicle type consists of the highest population density?
* Which vehicle type produces the highest CO2 emissions?

I will be using business rules to form these relationships between the stated entities. I have had some difficulties finding satisfactory data online, and from the given sources so I will be using ChatGPT to make some mock data instead. I will be using the diagram from the database analysis phase to create a prompt for the generated data of CO2 emissions and overall vehicle population in the United States. Furthermore, I will be using up to 100 entries of raw data from 2015-present, and the data will be generated in the form of a csv-extension file. Here is the mock data generated and the prompt used:  
  
“I want 100 entries of raw data generated in the form of a csv file that mocks real data from 2015 until now. I want the columns to be based off of this schema: Owner information, such as fullname, and address(street1,street2optional,city,state,postal) Vehicle information such as year, make, model, plateID and Statecode, engine type and the emissions produced based off of miles driven (for electric I want emissions produced from production fossil fuels since they don't really produce anything on their own). As for the vehicle types (electric, hybrid, and gas) I want data on the battery capacity and range of electric types, battery capacity and fuel efficiency of hybrids and fuel efficiency of gas types. Also, some optional data meaning they don't all have to have data on these columns: registrationDate, salesAmount, salesDate.” The data generated is attached as well.

