

# Final Project

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I initially have the idea of creating a project on abstract algebra and solving some problems that are related. But then I find out that a lot of functions related to abstract algebra have already been developed. So I decided to change my mind. This project is inspired by my friends, when they are driving from Seattle to Bellevue they often had to decide whether to take the 520 bridge or the i90 bridge. Where as the 520 bridge charges a fee to pass, the toll rates varies depends on the time of day and the amount of cars passing in the time interval. The i90 bridge is free to pass, but is longer in distance. I used the nested interact in sage to make the use of my functions much more easier. First the user can choose the brand of your car, then choose the specific model of that brand. Because the traffic and the toll rates changes, the user will have to select a time for the trip. The cost of the trip also depends on the type of gas used for the car selected. The output will include the mpg for your car, the current toll rate for each bridge, and a comparison between the cost of taking 520 and i90. It also have a estimate of the amount of time for taking each of the two bridges. I hope that my project will give you some information when you are unsure of which route to choose when preparing your trip.