# SQL Query visualizations

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A few modifications were made to questions to increase complexity in some cases.

Note: Majority of the visualizations were conducted with connecting MySQL to Tableau and running queries in Tableau.

Not all questions have visuals.

1. What are the customer demographics in terms of gender and number of cars owned. Is there a relationship between them?

2. What are the attributes of customers whose claims were found to be fraudulent?

3. Which are the top 5 most popular car makes and models enrolled with our firm for an insurance?

4. Are cars in certain price ranges more represented in our database than the others, i.e are expensive cars more likely to be insured with our than low range ones? Does this vary by car maker?

5. Does marital status determine the type of car and insurance owned?

6. Who are our top 2 and bottom 2 performing agents in terms of the number of policies sold?

7. Is there any seasonality in accidents? Are there certain months when more accidents occur? What is the YoY change in accident-related claims?

8. Are sports cars more likely to be involved in accidents? Where do most of these accidents occur

9. Is a claim more likely to be a fraudulent in the absence of a witness and if police report wasn't filed?

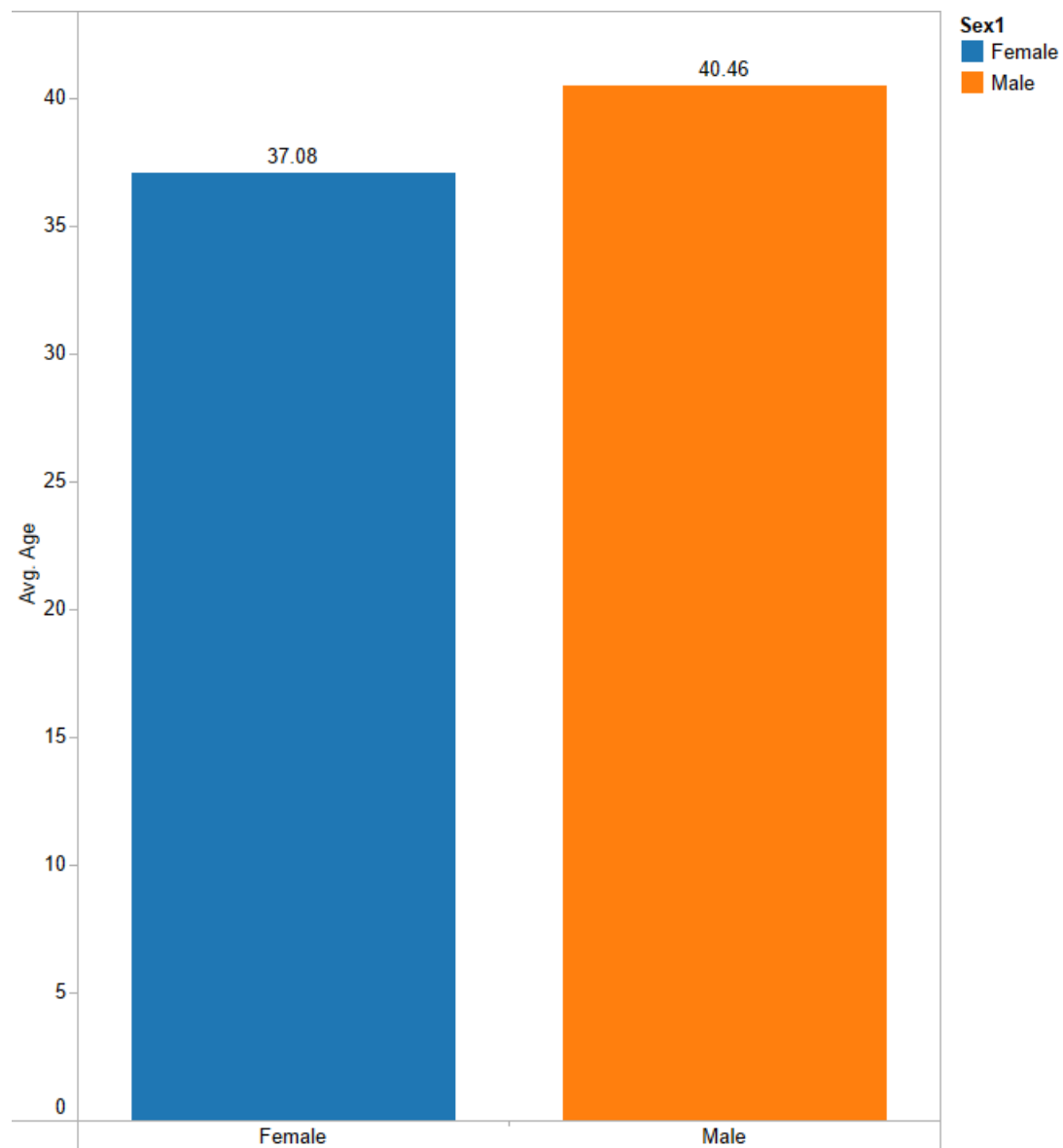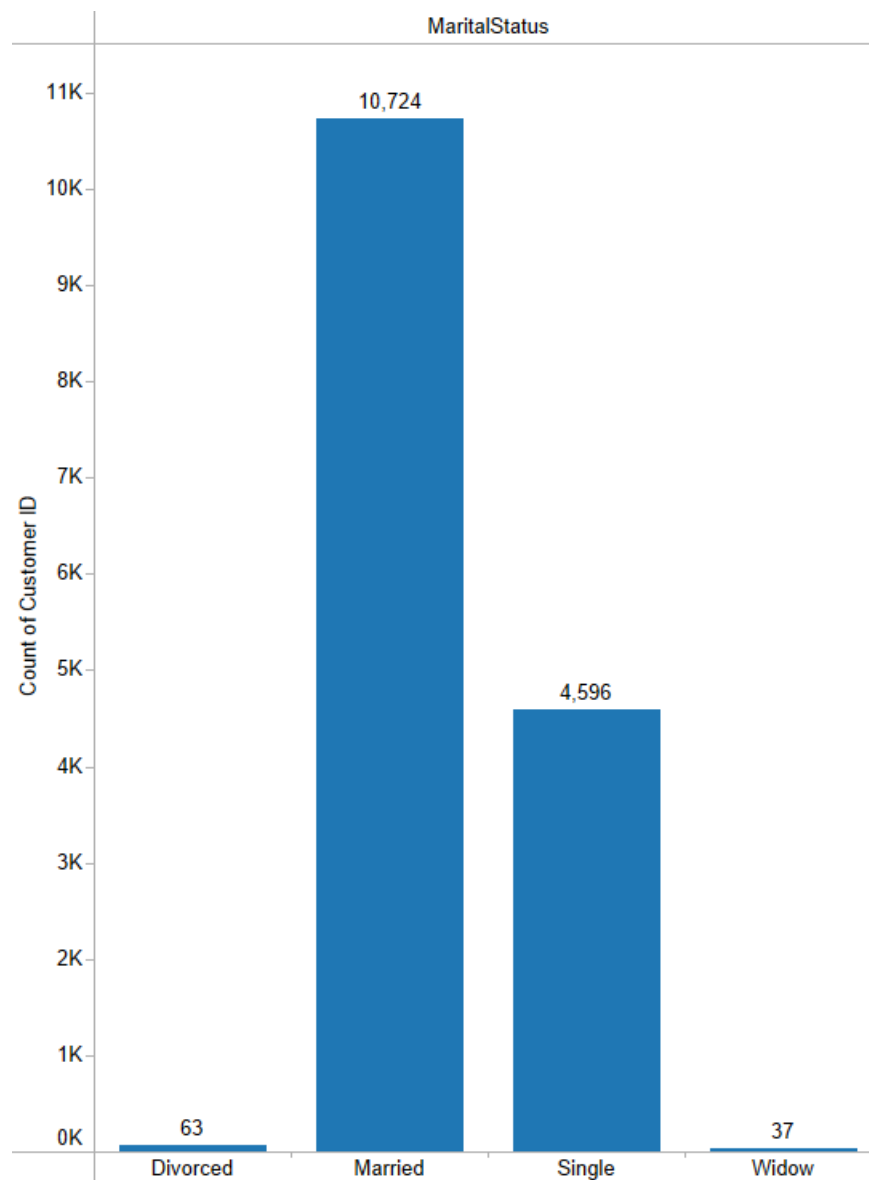10. Which are the top 3 policy types and their area of accident

Question 1
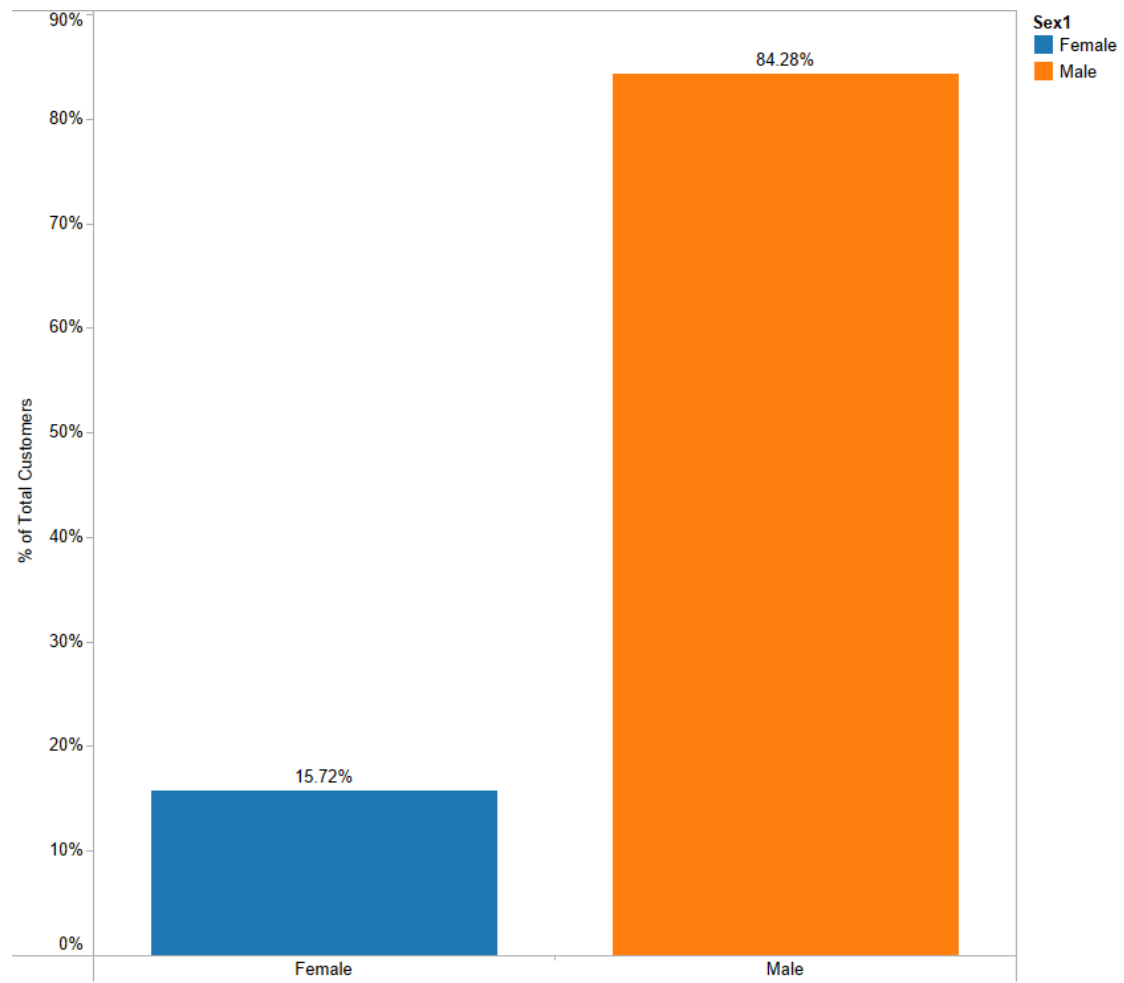
- Majority of the policy holders are Male customers
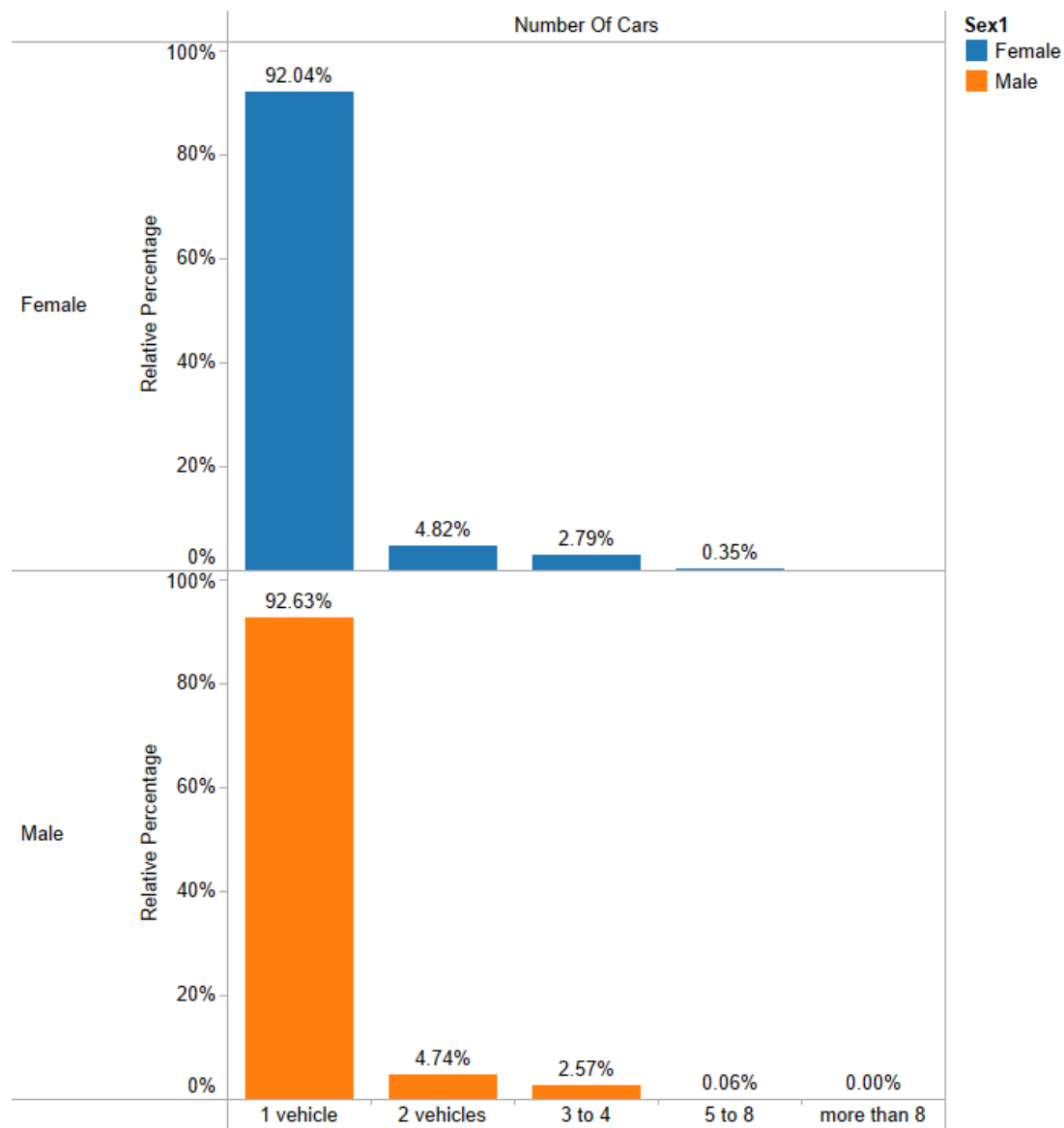
- Relative percentage of vehicle ownership between male and female policy holders show that most of them are single car owners
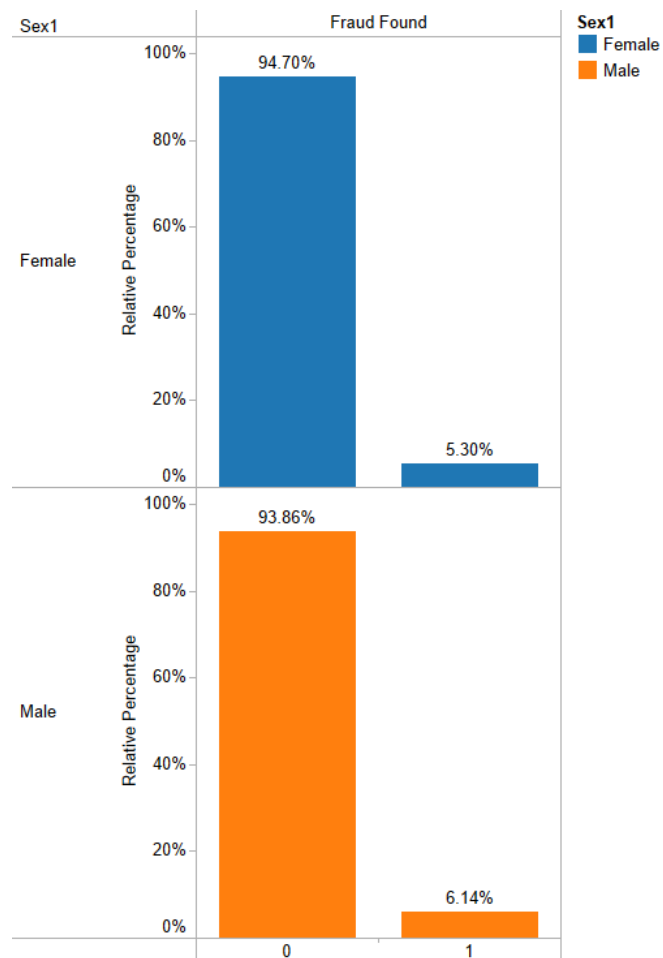
- Average age of Males = 40.46 and Females = 37.08

MaritalStatus

- Majority of policy holders are married

Question 2.

- Single vehicle owners more likely to submit fraudulent claim
- Males more like to commit fraud than females on aggregate

MaritalStatus	Number Of Cars	Avg. Age
Divorced	1 vehicle	Male 45.00, Female 38.75
	2 vehicles	Female 34.00
Married	1 vehicle	Male 44.98, Female 39.49
	2 vehicles	Male 45.04, Female 35.25
	3 to 4	Male 47.64
Single	1 vehicle	Male 31.46, Female 32.60
	2 vehicles	Male 33.00, Female 26.00
	3 to 4	Male 27.83
Widow	1 vehicle	Female 56.00

Sex1: Female, Male

Fraud Found

Female: 94.70% (0), 5.30% (1)

Male: 93.86% (0), 6.14% (1)

- Married and Single men more likely to commit fraud than divorced men

Fraud Found

MaritalStatus	Non Fraudulent		Fraudulent	
Divorced	50.00% (Male)	50.00% (Female)	28.57% (Male)	71.43% (Female)
Married	87.72% (Male)	12.28% (Female)	88.96% (Male)	11.04% (Female)
Single	77.36% (Male)	22.64% (Female)	80.69% (Male)	19.31% (Female)
Widow	36.11% (Male)	63.89% (Female)		100.00% (Female)

Sex1
- Female
- Male

Within group percentage (0% – 100%)
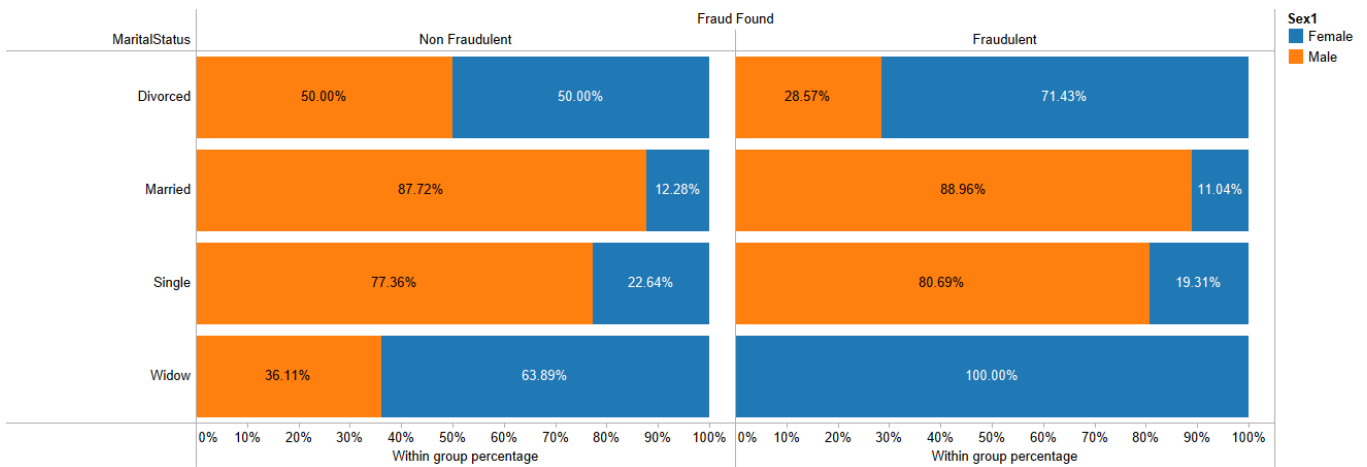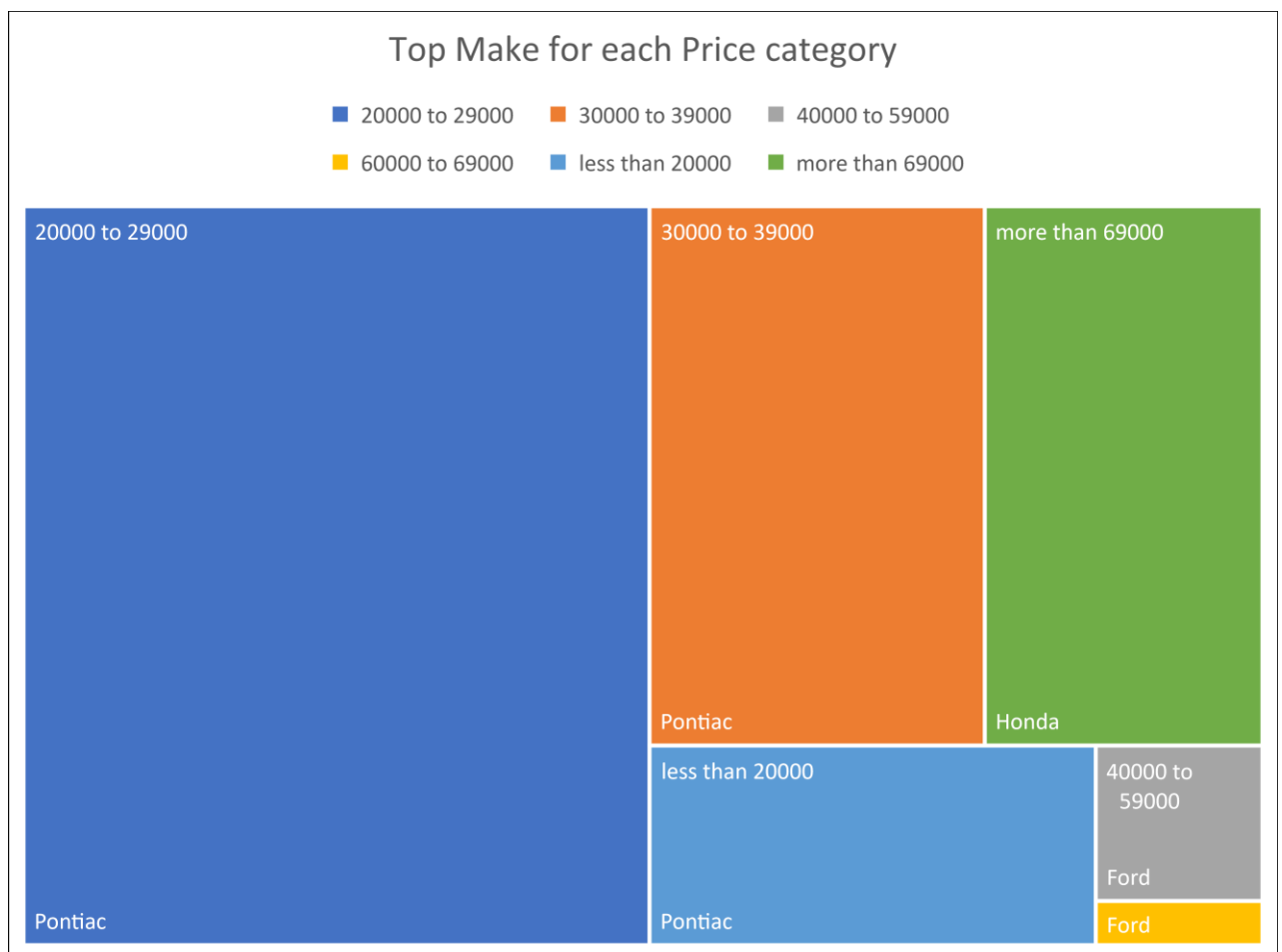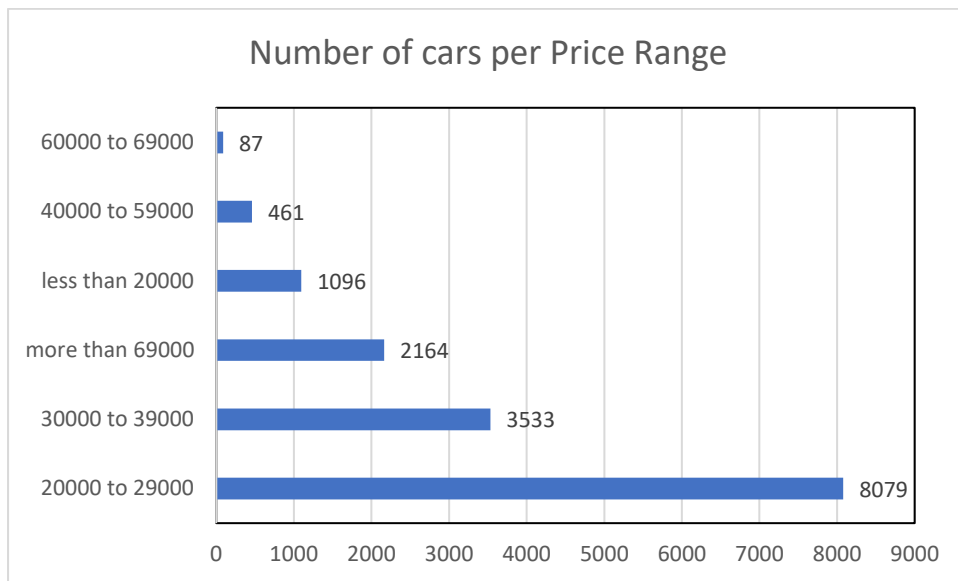
Question 3.

- Top 5 vehicle categories are Pontiac, Toyota, Honda, Mazda and Chevrolet
- The most preferred category in all 5 makes are sedans

Top Vehicle category for the top 5 Makes

	Sedan Pontiac	Sedan Toyota	Sedan Honda	Sedan Mazda	Sedan Chevrolet
Value	2564	2148	1570	1384	971

Question 4.

Number of cars per Price Range

Price Range	Count
60000 to 69000	87
40000 to 59000	461
less than 20000	1096
more than 69000	2164
30000 to 39000	3533
20000 to 29000	8079

Top Make for each Price category

Legend: 20000 to 29000 · 30000 to 39000 · 40000 to 59000 · 60000 to 69000 · less than 20000 · more than 69000

- 20000 to 29000 — Pontiac
- 30000 to 39000 — Pontiac
- more than 69000 — Honda
- less than 20000 — Pontiac
- 40000 to 59000 — Ford
- 60000 to 69000 — Ford

- Majority of our customers own low-to mid-range cars. These are in the price range of $20000 to $29000.
- Pontiac is the preferred make for this price range

Question 7.

- Database contains data from Dec 1993 to Jan 1997.
- YoY the accident claims are on a decline.
- Highest number of accident claims recorded in December 1994
- No observable seasonality in accident claim trends

% Change of accidents YoY