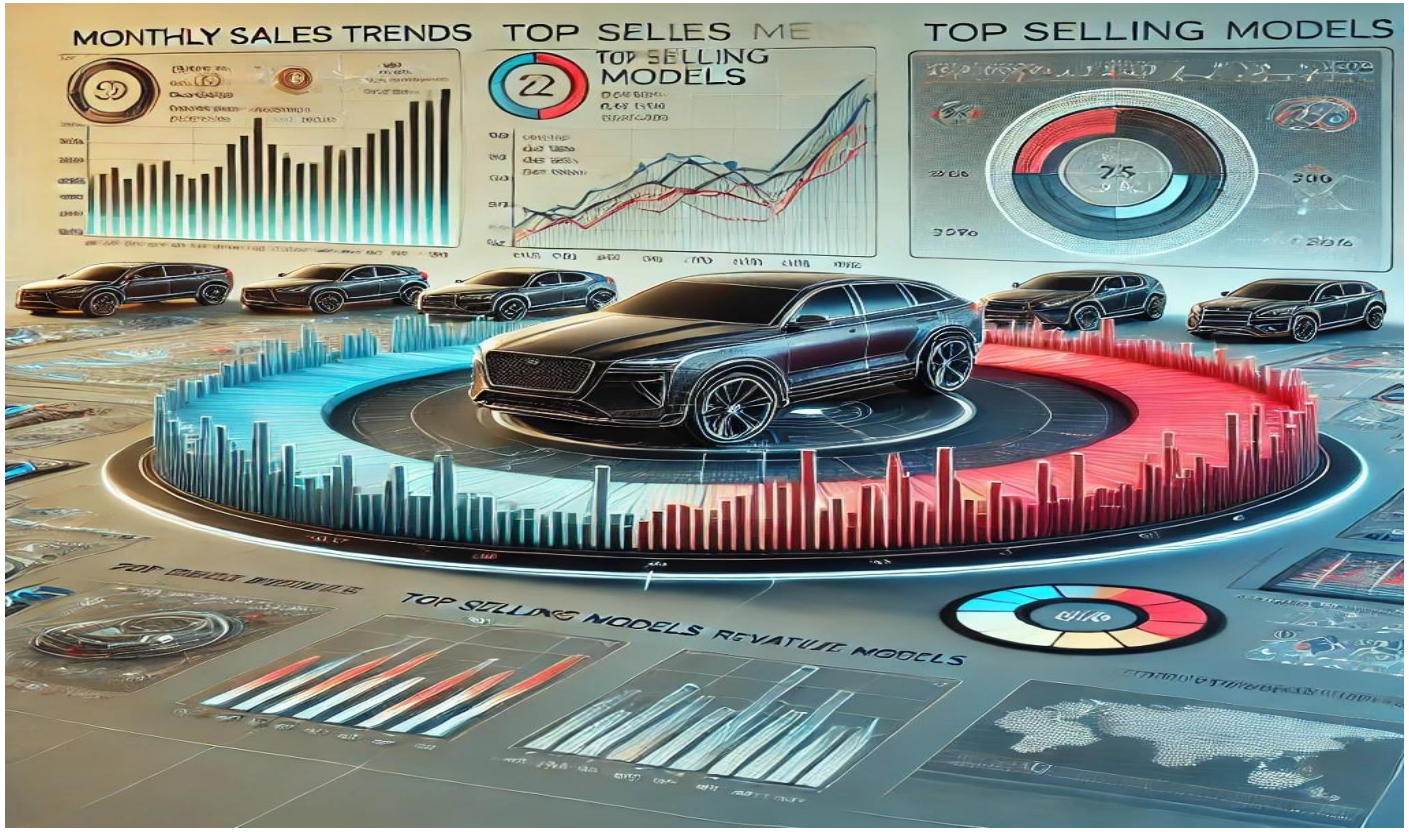
Analysis on Car Sales



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Introduction :-

- The dataset consists of **188,675** rows and 16 columns, capturing various details about vehicles.

Key columns include:

- **year**: The sale year of the vehicle in that there are two years of data from 2014 to 2015.
- **make and model:** The brand and model (fusion , range ,ghost) of the vehicle.
- **trim and body:** Additional vehicle details like trim (version or special varient) (LX,SE)and body style (e.g., sedan, suv).
- **transmission:** Type of transmission (e.g., automatic , manul).
- This dataset analyze trends in vehicle sales, body type and other attributes and across different locations

key findings:-

- **Vehicle Age:** The dataset covers vehicles from a wide range of sale years, indicating a **mix of new and older vehicles.**

- **Popular Makes and Models**: Certain vehicle makes are **ford** and model is **Fusion** and body type is s**edan** is are more common in the dataset, which can suggest trends in popularity or **market demand**. Avg price of the popular makes and model are **13600**

- **Geographical Distribution**: The state column in dataset allowing for analysis of **regional trends** in vehicle sales . In that top most state are **fl,cal,pe** has top most sale are sales by the **the hertz corporation** , body type **sedan** , **model is altima** and maker is also same that is **Ford**

- **Transmission Type** :

- There is variation in the type of transmission (e.g., **automatic or manual)**, which can provide insights into consumer preferences in that most of the buyer buy **the tansmission type automatic.**

manual- 3519
automatic-163092

Data description:-

- **year** (year of the vehicle sale)
- **make** (vehicle manufacturer)
- **model** (vehicle model)
- **trim** (specific version of the vehicle)
- **body** (type of vehicle body, e.g., SUV, sedan)
- **transmission** (automatic/manual transmission)

Summary of the dataset:-

- Number of rows: **188,675**
- Number of columns: **16**
- Date range: From January 1, **2014**, to July 14, **2015**

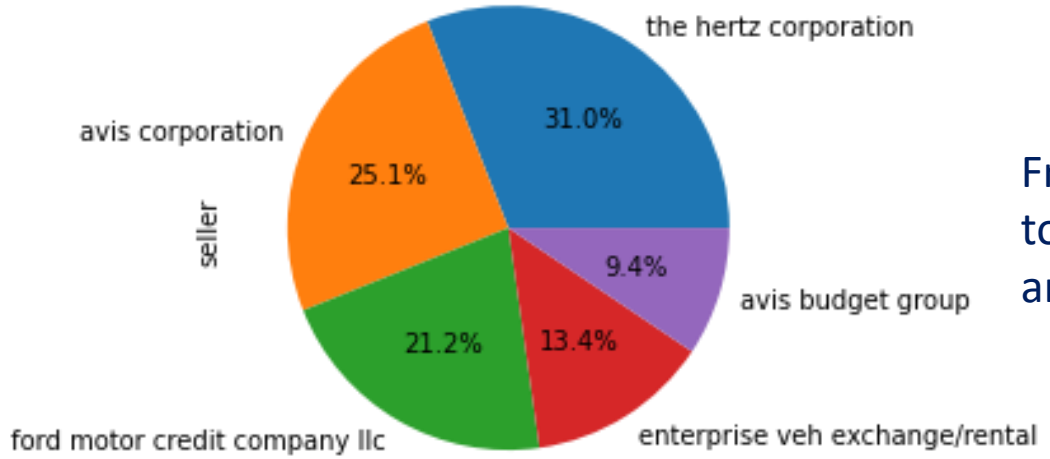
Data transformation :-

- The **saledate column** transform that data **into month column** and **year column** because in the dataset there already one column year that mean in which year car is build that data is not mean for us that's why transform saledate into month and year column

- in the year column there are so many data in that data some value are nan that's why when we converting that datatype into int its give error :-
  IntCastingNaNError: Cannot convert non-finite values (NA or inf) to integer
  to solve this first we need to fill that nan value with fillna zero(0)

Key insights :

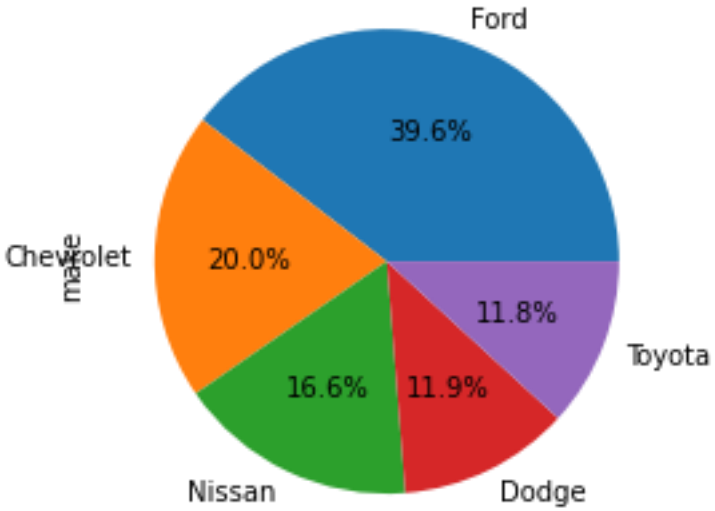
- **We analyse :**
  1)Top most seller are and its Top most make(brand) and which type of body type sale most



From the below table we analyse that the top seller sale the chevorlet brand (make) and the body type is sedan

Seller	make	Body type
The hertz corporation	Chevorlet	sedan
Avis corporation	Chevorlet	sedan
Ford motor credit company llc	Ford	suv
Enterprise veh exchane/rentel	Chevorlet	sedan
avis budget group	Ford	sedan

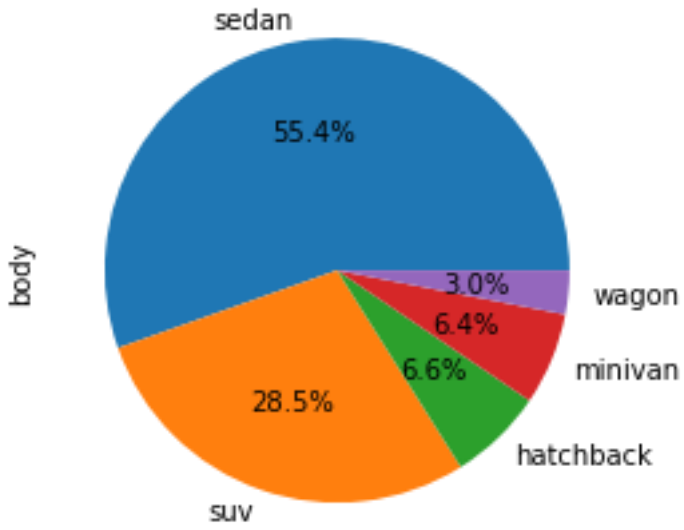
2) Top most make and its body type and model most sale and it’s transmission is automatic and its count



- In the below table we see the top most maker sale body type sedan from different makes(brand)

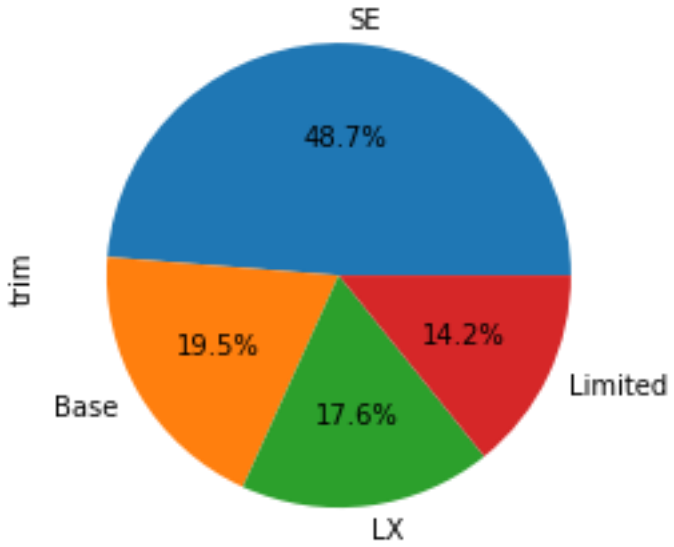
Sr.no	Make	Body type	Body Count	Model	Model count	Transmission
1	Ford	sedan	13013	fusion	6291	automatic
2	Chevrolet	sedan	10639	cruze	4075	automatic
3	Nissan	sedan	9553	altima	6074	automatic
4	Dodge	sedan	4808	Grand-caravan	3771	automatic
5	Toyota	sedan	7527	carmry	4171	automatic

3) Top most body type sale and which company make that body type and its rating grater than avrage ratings and its count to check which is best out of these



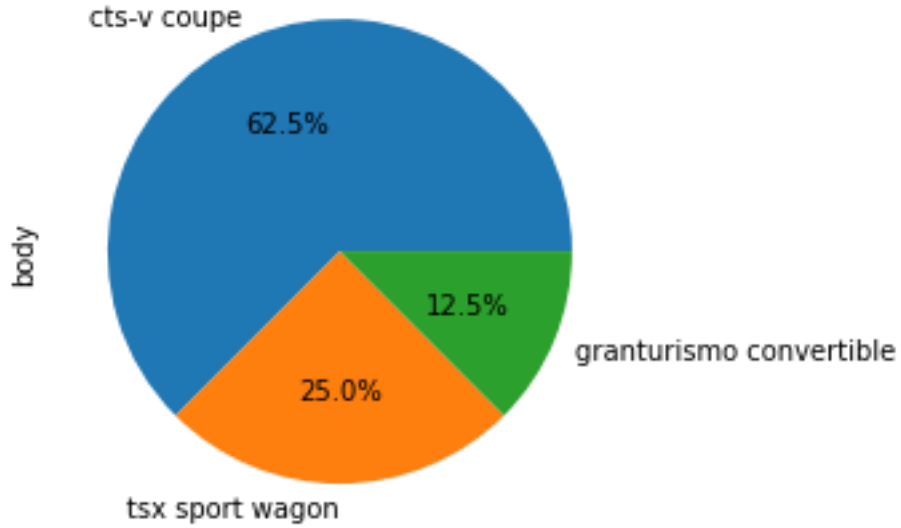
Body type	Maker	Count of body
sedan	Ford	10816
suv	Ford	11314
hatchback	Ford	2417
minivan	dodge	2077
wagon	kia	1398

4) Top most trim sale and which make are make that most and rating grater than avrage rating



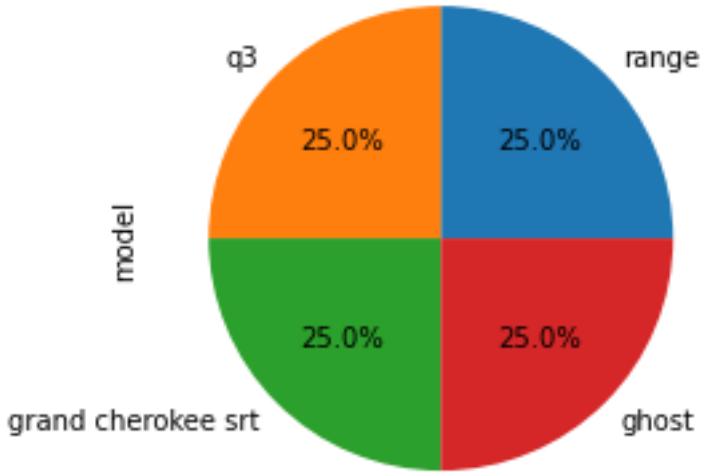
trim	make	count
SE	Ford	13094
Base	Lexus	2204
LX	Kia	5457
Limited	Ford	2959

5) Rarer body type sale and its make(brand) and its ratings



Body type	maker	Rating(condition)
Ctd-v coupe	Cadillac	12.8
Tsx sport wagon	Acura	45.5
Granturismo convertible	maserati	49.0

6)Rarer model sale and its make (brand) and its condition



model	make	condition
q3	Audi	5.0
range	Land rover	43.0
ghost	RollsRoyce	42.0
grand cherokee srt	jeep	47.0

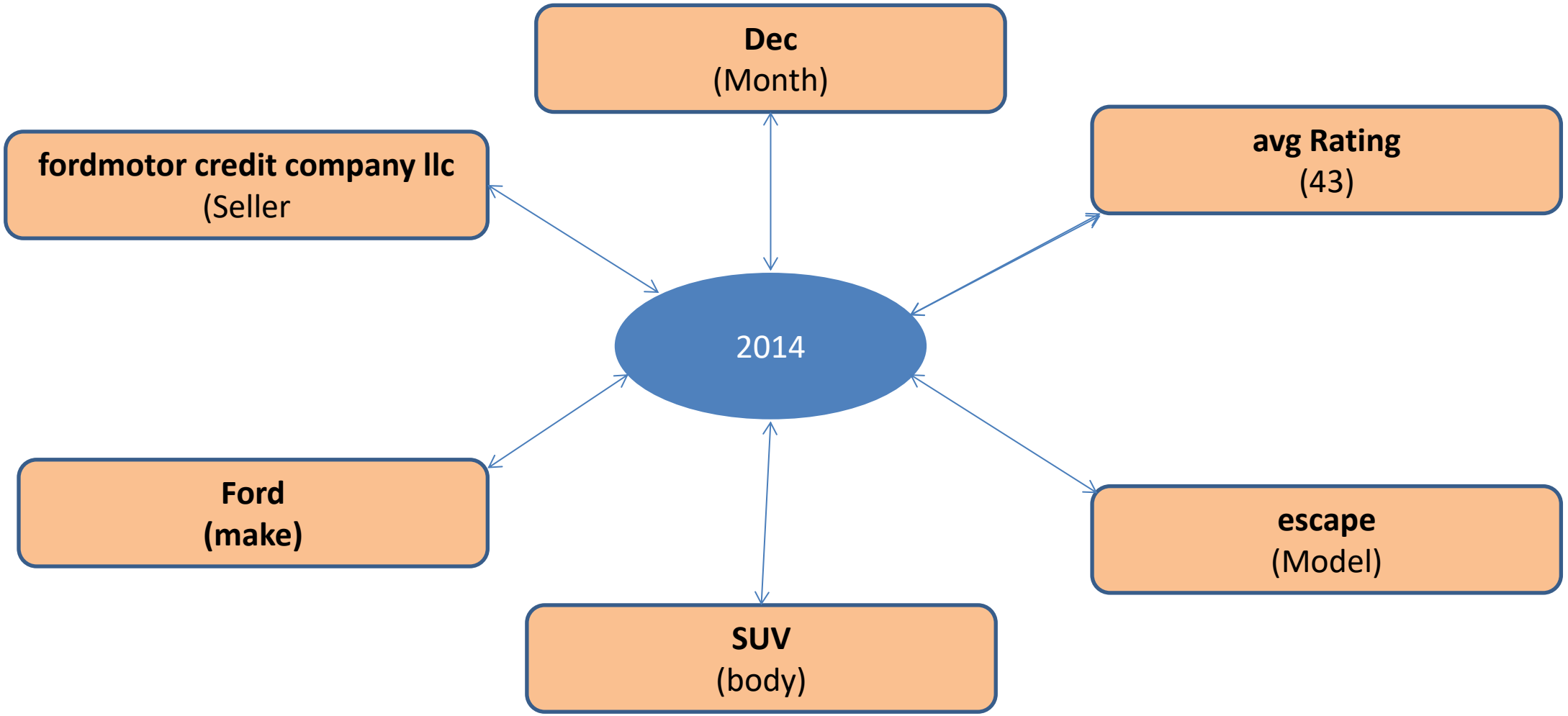
7) Which rare color car sale most that are use in exterior

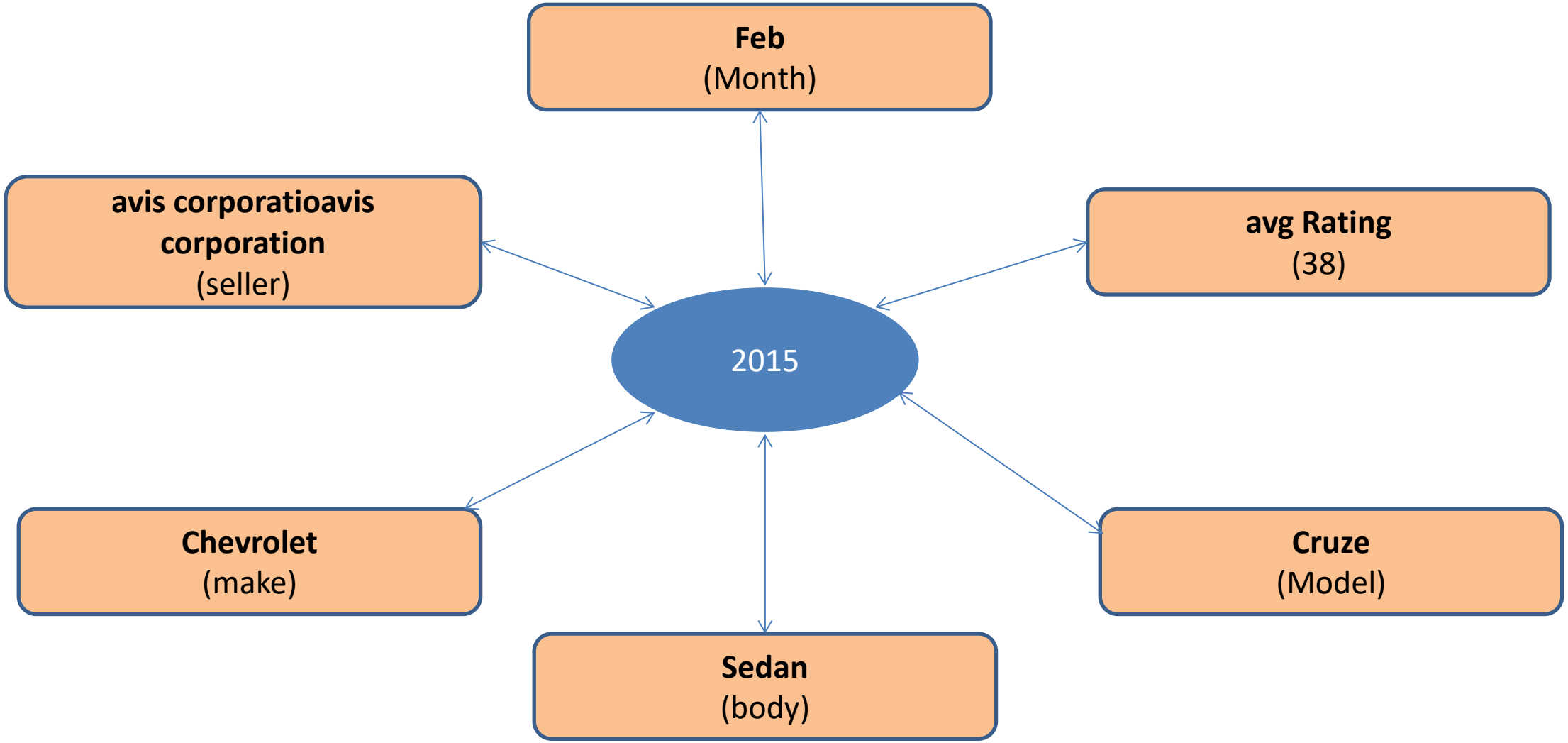
Interior_color	make	model	Body type
lime	Ford	mustang	coupe
pink	chevrolet	spark	hatchback

8) Which rare color car sale most that are use in interior and its make

Exterior_color	make	model	Body type
yellow	chevrolet	spark	hatchback
orange	BMW	X6,X5,X1	suv
orange	Nissan	**Versa note,juke**	hatchback

9) Year wise analysis on the basis of month, seller, maker,body type, model and its avg ratings

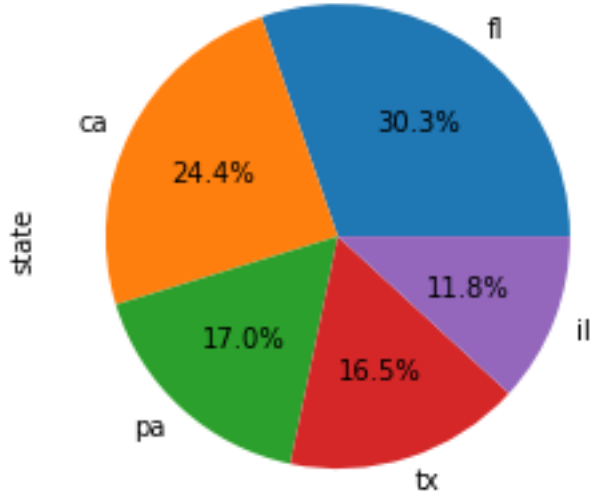


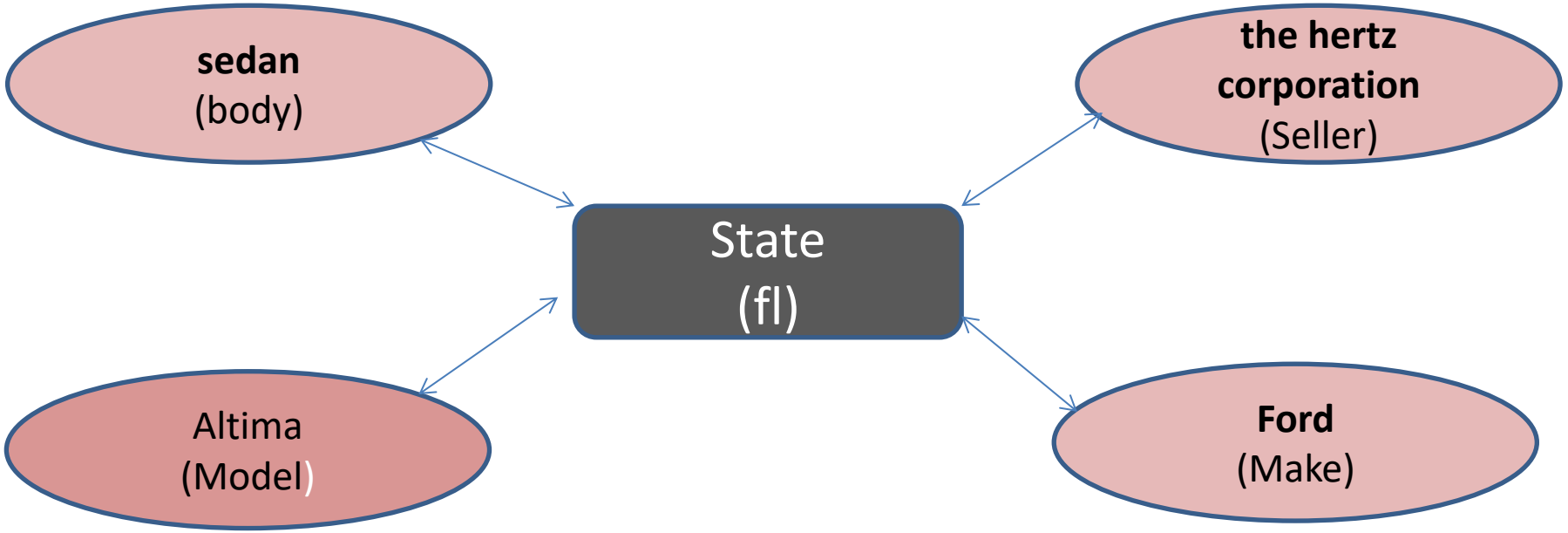

Feb
(Month)
avis corporatioavis corporation
(seller)
avg Rating
(38)
2015
Chevrolet
(make)
Cruze
(Model)
Sedan
(body)

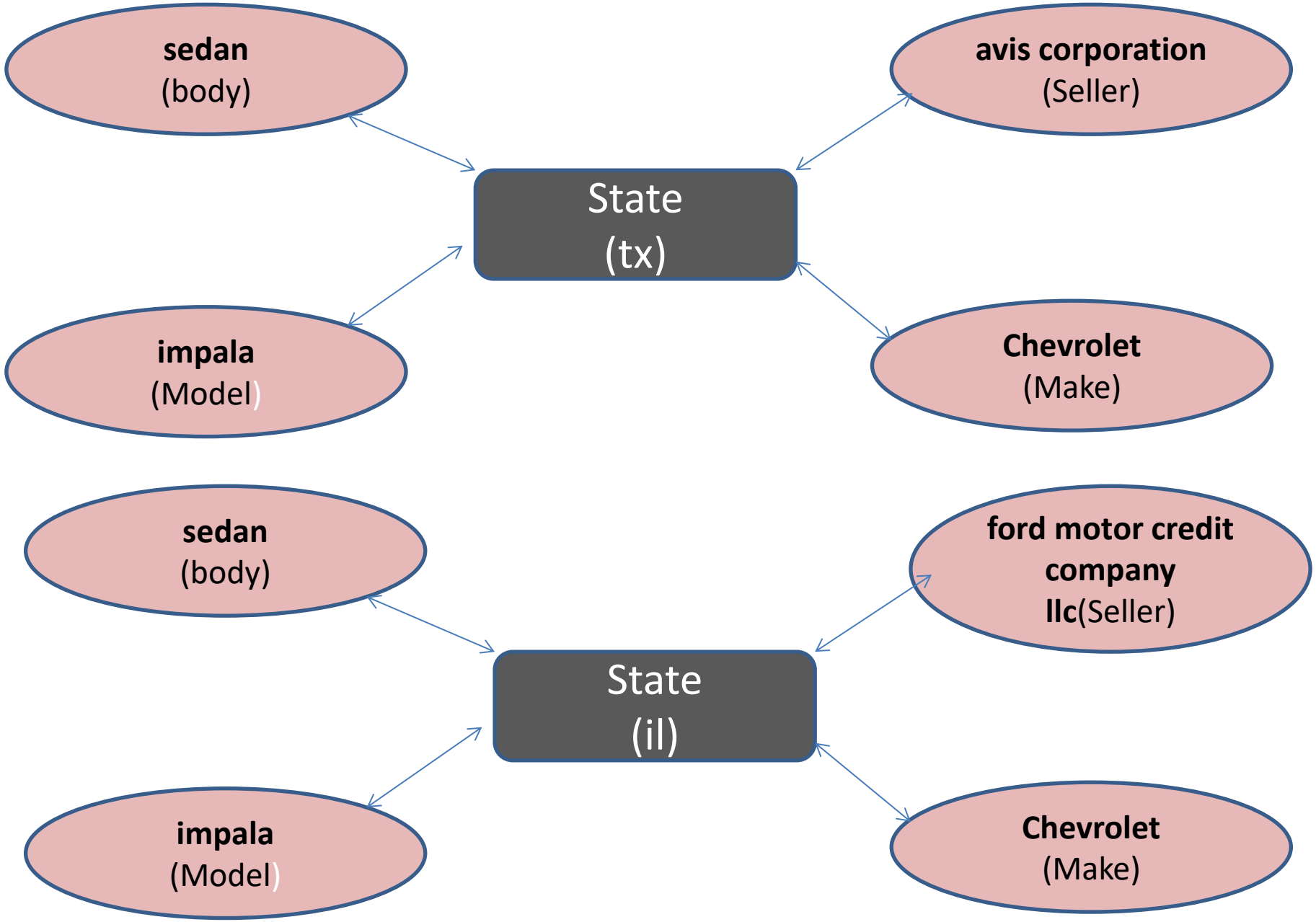
10) State wise analysis

In state wise analysis the fl ,ca and pa state has same seller , make, body type and model

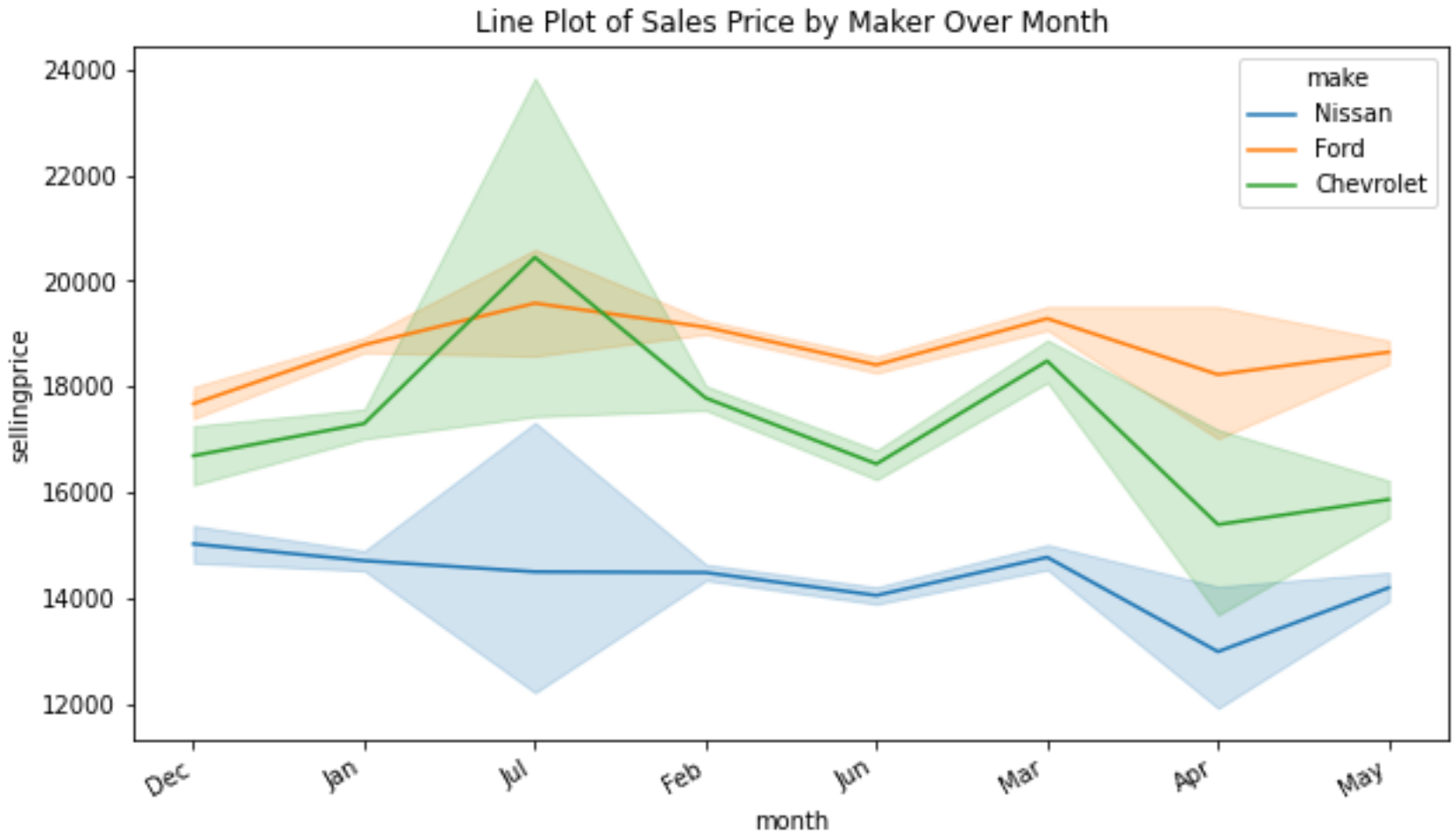
Ca- california
Fl – florida
Pa – pennsylvania
Tx – texa
il - lllinois






sedan
(body)
avis corporation
(Seller)
State
(tx)
impala
(Model)
Chevrolet
(Make)
sedan
(body)
ford motor credit
company
llc(Seller)
State
(il)
impala
(Model)
Chevrolet
(Make)

11) Line Plot of sale price by maker over month



Ford -42819
Nissan – 18001
Chevrole-21688

Conclusion :

- The dataset tells us about car sales . In the dataset most car sale by the **the hertz corporation and body type is sedan and model Fusion** This information can help people decide when they want to buy or sell a car. It helps us understand how different factors affect like car model, body type etc
- In this dataset analyze vehicle sales are most of the car are manufacture by **Ford** , body type sedan and other attributes over time and across different locations

Recommendations :

- Choose newer cars: Newer cars are sold at higher prices, but they often come with better features and fewer issues.

- Consider popular car brands: Some brands sell more cars because people trust them **like Ford** in our dataset and its body type **is sedan** . Look for top brands if you're buying or selling a car.
- When we buying the new car we need to by the Car which are manufacture by the **FORD**

Because in our dataset most of the car sale by the brand Ford that's why when buying new car that must be popular brand after some period when we need to sale that car its has value because of the brand

- When need to buy by the second or old car we need buy that from **the hertz corporation or avis corporation** because most of the car sale by this to seller .