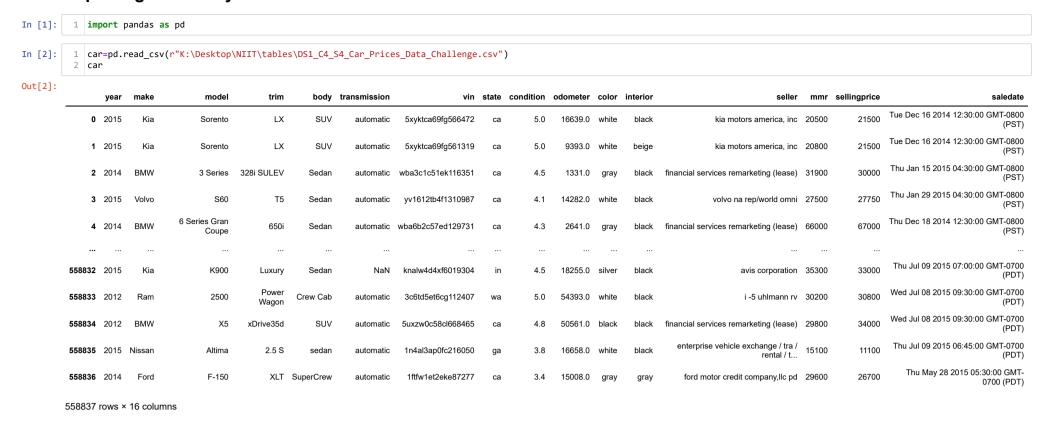
#### Importing necessary modules



## Task1: To identify cars made in 2014 and lowest price car makers

# Task2: To help compare bmw cars sold in 2010 and 2015 which have condition score above 4.5 and find relative percentage in sold numbers

```
In [4]:

| BMW_1510=car[(car.make=="BMW")&(car.condition>=4.5)&((car.year==2010)|(car.year==2015))]
| 2 | sales=pd.pivot_table(BMW_1510,index="year",values=["sellingprice"]).sort_values("sellingprice",ascending=False)
| relative_percent=(sales.iloc[0,:]-sales.iloc[1,:])/(sales.iloc[1,:])*100
| print("The relative percent of increase in sales in 2015 is ",round(relative_percent,2)[0],"%")
| print() | sales
| The relative percent of increase in sales in 2015 is 85.22 %

Out[4]:
| sellingprice | year |
```

## Task3: To compare the average wholesale price mmr of cars with grey and black color interior

```
In [5]: 1 interior=car[(car.interior=="black")|(car.interior=="gray")]
2 int_bg=pd.pivot_table(interior, index="interior", values=["mmr"])
3 print("The difference in mmr for black and gray color interior cars :",(int_bg.iloc[0,:]-int_bg.iloc[1,:])[0])
4 int_bg

The difference in mmr for black and gray color interior cars : 4668.743510266328
Out[5]:
```

interior
black 15858.520055
gray 11189.776545

**2015** 43096.770601 **2010** 23267.441860

Task4: To find total cars sold based on color from 2013 to 2015

In [6] color b=car[(car.year>=2013)&(car.year<=2015)]</pre> pd.crosstab(color\_b.make,color\_b.color) Out[6]: beige black blue brown burgundy charcoal gold gray green lime off-white orange pink purple turquoise make Acura Audi BMW Buick Cadillac Chevrolet 25 2154 Chryslei Dodge FIAT 7102 2209 Ford GMC Hyundai Infiniti Jagua Jeep Kia Lexus Lincoln Maserati Mazda Mitsubishi Ram Rolls-Royce Subaru Suzuki Toyota buick dodge jeep land rove nissar volkswagen vw

## Task5: To find total sales of cars on particular dates and body type as SUV

```
In [7]:
    suv=car[(car.body=="SUV")&((car.saledate=="Fri Dec 19 2014 09:00:00 GMT-0800 (PST)")|(car.saledate=="Thu Jan 15 2015 04:30:00 GMT-0800 (PST)"))]
    print("The total sales of SUV cars on corresponding dates = ",len(suv))
    y2014=len(suv[suv.saledate=="Fri Dec 19 2014 09:00:00 GMT-0800 (PST)"])
    y2015=len(suv[suv.saledate=="Thu Jan 15 2015 04:30:00 GMT-0800 (PST)"])
    print("Relative difference percent = ",round((y2015-y2014)/y2015 * 100,2),"%")
The total sales of SUV cars on corresponding dates = 879
```

### Task6: To create a column discounted price and give 20% for chevrolet and ford and 10% for others

4 60300.0
... ...
558832 29700.0
558833 27720.0
558834 30600.0
558835 9990.0
558836 21360.0

Relative difference percent = -83.55 %

27000.0 24975.0

Task7: To drop saledate and vin and replace all missing values of dataframe