

In [1]: import pandas as pd

In [2]: data=pd.read_csv(r"C:\Users\Bhavya's Surface\Documents\pandas\CarsData.csv")

In [4]: data

Out[4]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepower	MPG_City	MPG_Highway
0	Acura	MDX	SUV	Asia	All	\$36,945	\$33,337	3.5	6.0	265.0	17.0	
1	Acura	RSX Type S 2dr	Sedan	Asia	Front	\$23,820	\$21,761	2.0	4.0	200.0	24.0	
2	Acura	TSX 4dr	Sedan	Asia	Front	\$26,990	\$24,647	2.4	4.0	200.0	22.0	
3	Acura	TL 4dr	Sedan	Asia	Front	\$33,195	\$30,299	3.2	6.0	270.0	20.0	
4	Acura	3.5 RL 4dr	Sedan	Asia	Front	\$43,755	\$39,014	3.5	6.0	225.0	18.0	
...
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	\$40,565	\$38,203	2.4	5.0	197.0	21.0	
428	Volvo	C70 HPT convertible 2dr	Sedan	Europe	Front	\$42,565	\$40,083	2.3	5.0	242.0	20.0	
429	Volvo	S80 T6 4dr	Sedan	Europe	Front	\$45,210	\$42,573	2.9	6.0	268.0	19.0	
430	Volvo	V40	Wagon	Europe	Front	\$26,135	\$24,641	1.9	4.0	170.0	22.0	
431	Volvo	XC70	Wagon	Europe	All	\$35,145	\$33,112	2.5	5.0	208.0	20.0	

432 rows × 15 columns

In [5]: data.shape

Out[5]: (432, 15)

In [7]: data.isnull().sum()

Out[7]:

Make	4
Model	4
Type	4
Origin	4
DriveTrain	4
MSRP	4
Invoice	4
EngineSize	4
Cylinders	6
Horsepower	4
MPG_City	4
MPG_Highway	4
Weight	4
Wheelbase	4
Length	4

dtype: int64

In [9]: #filling the null with the mean of the respective column
data['Cylinders'].fillna(data['Cylinders'].mean(), inplace=True)

In [10]: data

Out[10]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepower	MPG_City	MPG_Highway
0	Acura	MDX	SUV	Asia	All	\$36,945	\$33,337	3.5	6.0	265.0	17.0	
1	Acura	RSX Type S 2dr	Sedan	Asia	Front	\$23,820	\$21,761	2.0	4.0	200.0	24.0	
2	Acura	TSX 4dr	Sedan	Asia	Front	\$26,990	\$24,647	2.4	4.0	200.0	22.0	
3	Acura	TL 4dr	Sedan	Asia	Front	\$33,195	\$30,299	3.2	6.0	270.0	20.0	
4	Acura	3.5 RL 4dr	Sedan	Asia	Front	\$43,755	\$39,014	3.5	6.0	225.0	18.0	
...
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	\$40,565	\$38,203	2.4	5.0	197.0	21.0	
428	Volvo	C70 HPT convertible 2dr	Sedan	Europe	Front	\$42,565	\$40,083	2.3	5.0	242.0	20.0	
429	Volvo	S80 T6 4dr	Sedan	Europe	Front	\$45,210	\$42,573	2.9	6.0	268.0	19.0	
430	Volvo	V40	Wagon	Europe	Front	\$26,135	\$24,641	1.9	4.0	170.0	22.0	
431	Volvo	XC70	Wagon	Europe	All	\$35,145	\$33,112	2.5	5.0	208.0	20.0	

432 rows × 15 columns

In [14]: #total no. of manufacturers
data['Make'].value_counts()

Out[14]:

Toyota	28
Chevrolet	27
Mercedes-Benz	26
Ford	23
BMW	20
Audi	19
Honda	17
Nissan	17
Chrysler	15
Volkswagen	15
Dodge	13
Mitsubishi	13
Jaguar	12
Hyundai	12
Volvo	12
Lexus	11
Subaru	11
Kia	11
Mazda	11
Pontiac	11
Lincoln	9
Mercury	9
Buick	9
Infiniti	8
GMC	8
Suzuki	8
Cadillac	8
Saturn	8
Acura	7
Porsche	7
Saab	7
Jeep	3
Land Rover	3
Oldsmobile	3
MINI	2
Scion	2
Isuzu	2
Hummer	1

Name: Make, dtype: int64

In [19]: #origin is asia or europe
data[(data['Origin']=='Asia') & (data['Origin']=='Europe')].sum().value_counts()

Out[19]:

0.0	15
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dtype: int64

In [17]: data[data['Origin'].isin(['Asia','Europe'])]

Out[17]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepower	MPG_City	MPG_Highway
0	Acura	MDX	SUV	Asia	All	\$36,945	\$33,337	3.5	6.0	265.0	17.0	
1	Acura	RSX Type S 2dr	Sedan	Asia	Front	\$23,820	\$21,761	2.0	4.0	200.0	24.0	
2	Acura	TSX 4dr	Sedan	Asia	Front	\$26,990	\$24,647	2.4	4.0	200.0	22.0	
3	Acura	TL 4dr	Sedan	Asia	Front	\$33,195	\$30,299	3.2	6.0	270.0	20.0	
4	Acura	3.5 RL 4dr	Sedan	Asia	Front	\$43,755	\$39,014	3.5	6.0	225.0	18.0	
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429	Volvo	S80 T6 4dr	Sedan	Europe	Front	\$45,210	\$42,573	2.9	6.0	268.0	19.0	
430	Volvo	V40	Wagon	Europe	Front	\$26,135	\$24,641	1.9	4.0	170.0	22.0	
431	Volvo	XC70	Wagon	Europe	All	\$35,145	\$33,112	2.5	5.0	208.0	20.0	

281 rows × 15 columns

In [24]: data[~(data['Weight']>4000)]

Out[24]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepower	MPG_City	MPG_Highway
1	Acura	RSX Type S 2dr	Sedan	Asia	Front	\$23,820	\$21,761	2.0	4.0	200.0	24.0	
2	Acura	TSX 4dr	Sedan	Asia	Front	\$26,990	\$24,647	2.4	4.0	200.0	22.0	
3	Acura	TL 4dr	Sedan	Asia	Front	\$33,195	\$30,299	3.2	6.0	270.0	20.0	
4	Acura	3.5 RL 4dr	Sedan	Asia	Front	\$43,755	\$39,014	3.5	6.0	225.0	18.0	
5	Acura	3.5 RL w/Navigation 4dr	Sedan	Asia	Front	\$46,100	\$41,100	3.5	6.0	225.0	18.0	
...
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	\$40,565	\$38,203	2.4	5.0	197.0	21.0	
428	Volvo	C70 HPT convertible 2dr	Sedan	Europe	Front	\$42,565	\$40,083	2.3	5.0	242.0	20.0	
429	Volvo	S80 T6 4dr	Sedan	Europe	Front	\$45,210	\$42,573	2.9	6.0	268.0	19.0	
430	Volvo	V40	Wagon	Europe	Front	\$26,135	\$24,641	1.9	4.0	170.0	22.0	
431	Volvo	XC70	Wagon	Europe	All	\$35,145	\$33,112	2.5	5.0	208.0	20.0	

329 rows × 15 columns

In []: