PROJECT ON CAR DATA

In [2]:
```python
import pandas as pd
```

In [5]:
```python
car = pd.read_csv('C:\\Users\\UP\\Downloads\\2. Cars Data1.csv')
```

In [6]:
```python
car
```

Out[6]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepowe
0	Acura	MDX	SUV	Asia	All	$36,945	$33,337	3.5	6.0	265.(
1	Acura	RSX Type S 2dr	Sedan	Asia	Front	$23,820	$21,761	2.0	4.0	200.(
2	Acura	TSX 4dr	Sedan	Asia	Front	$26,990	$24,647	2.4	4.0	200.(
3	Acura	TL 4dr	Sedan	Asia	Front	$33,195	$30,299	3.2	6.0	270.(
4	Acura	3.5 RL 4dr	Sedan	Asia	Front	$43,755	$39,014	3.5	6.0	225.(
...	...	...	...	...	...	...	...	...	...	..
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	$40,565	$38,203	2.4	5.0	197.(
428	Volvo	C70 HPT convertible 2dr	Sedan	Europe	Front	$42,565	$40,083	2.3	5.0	242.(
429	Volvo	S80 T6 4dr	Sedan	Europe	Front	$45,210	$42,573	2.9	6.0	268.(
430	Volvo	V40	Wagon	Europe	Front	$26,135	$24,641	1.9	4.0	170.(
431	Volvo	XC70	Wagon	Europe	All	$35,145	$33,112	2.5	5.0	208.(

432 rows × 15 columns

In [7]:
```python
car.shape
```

Out[7]: (432, 15)

In [19]:
```python
car.isnull().sum()
```

Out[19]:
```
Make          4
Model         4
Type          4
Origin        4
DriveTrain    4
MSRP          4
Invoice       4
EngineSize    4
Cylinders     0
```

```
Horsepower       4
MPG_City         4
MPG_Highway      4
Weight           4
Wheelbase        4
Length           4
dtype: int64
```
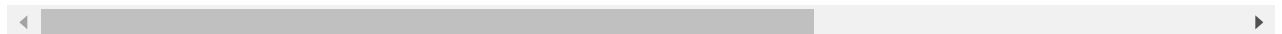
In [17]:
```python
car['Cylinders'].fillna(car['Cylinders'].mean(),inplace = True)
```

In [18]:
```python
car
```

Out[18]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepowe
0	Acura	MDX	SUV	Asia	All	$36,945	$33,337	3.5	6.0	265.0
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4	Acura	3.5 RL 4dr	Sedan	Asia	Front	$43,755	$39,014	3.5	6.0	225.0
...	...	...	...	...	...	...	...	...	...	..
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	$40,565	$38,203	2.4	5.0	197.0
428	Volvo	C70 HPT convertible 2dr	Sedan	Europe	Front	$42,565	$40,083	2.3	5.0	242.0
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431	Volvo	XC70	Wagon	Europe	All	$35,145	$33,112	2.5	5.0	208.0

432 rows × 15 columns

In [22]:
```python
car['Make'].value_counts()
```

Out[22]:
```
Toyota           28
Chevrolet        27
Mercedes-Benz    26
Ford             23
BMW              20
Audi             19
Honda            17
Nissan           17
Volkswagen       15
Chrysler         15
Dodge            13
Mitsubishi       13
Hyundai          12
Jaguar           12
```

```
Volvo            12
Lexus            11
Mazda            11
Pontiac          11
Kia              11
Subaru           11
Buick             9
Mercury           9
Lincoln           9
Infiniti          8
GMC               8
Suzuki            8
Saturn            8
Cadillac          8
Porsche           7
Saab              7
Acura             7
Jeep              3
Oldsmobile        3
Land Rover        3
Isuzu             2
Scion             2
MINI              2
Hummer            1
Name: Make, dtype: int64
```

In [23]:
```python
car[car['Origin'].isin(['Asia','Europe'])]
```

Out[23]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepowe
0	Acura	MDX	SUV	Asia	All	$36,945	$33,337	3.5	6.0	265.(
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4	Acura	3.5 RL 4dr	Sedan	Asia	Front	$43,755	$39,014	3.5	6.0	225.(
...	...	...	...	...	...	...	...	...	...	..
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	$40,565	$38,203	2.4	5.0	197.(
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430	Volvo	V40	Wagon	Europe	Front	$26,135	$24,641	1.9	4.0	170.(
431	Volvo	XC70	Wagon	Europe	All	$35,145	$33,112	2.5	5.0	208.(

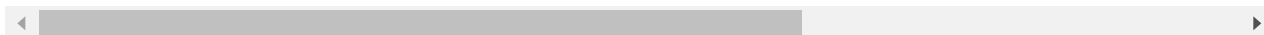281 rows × 15 columns

In [27]:
```python
#to remove any row
car[~(car['Weight'] > 4000)]
```

Out[27]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepow
1	Acura	RSX Type S 2dr	Sedan	Asia	Front	$23,820	$21,761	2.0	4.0	20
2	Acura	TSX 4dr	Sedan	Asia	Front	$26,990	$24,647	2.4	4.0	20
3	Acura	TL 4dr	Sedan	Asia	Front	$33,195	$30,299	3.2	6.0	27
4	Acura	3.5 RL 4dr	Sedan	Asia	Front	$43,755	$39,014	3.5	6.0	22
5	Acura	3.5 RL w/Navigation 4dr	Sedan	Asia	Front	$46,100	$41,100	3.5	6.0	22
...	...	...	...	...	...	...	...	...	...	
427	Volvo	C70 LPT convertible 2dr	Sedan	Europe	Front	$40,565	$38,203	2.4	5.0	19
428	Volvo	C70 HPT convertible 2dr	Sedan	Europe	Front	$42,565	$40,083	2.3	5.0	24
429	Volvo	S80 T6 4dr	Sedan	Europe	Front	$45,210	$42,573	2.9	6.0	26
430	Volvo	V40	Wagon	Europe	Front	$26,135	$24,641	1.9	4.0	17
431	Volvo	XC70	Wagon	Europe	All	$35,145	$33,112	2.5	5.0	20

329 rows × 15 columns

In [29]:
```python
#if we have to make a change the we will apply this syntax
car['MPG_City'] = car['MPG_City'].apply( lambda x:x+3)
```

In [30]:
```python
car
```

Out[30]:

	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize	Cylinders	Horsepowe
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...	...	...	...	...	...	...	...	...	...	..
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432 rows × 15 columns

In [ ]: