

# Assignment NO.1

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Importing CSV File:-

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import pandas as pd

# Load the dataset
data = pd.read_csv('/content/dataset2 (1).csv')
```

20 ques on the dataset:-

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# Which car model has the highest sales in thousands?
# What is the average price of all the vehicles in the dataset?
# How many different vehicle types are present in the dataset?
# Which manufacturer has the highest average horsepower across all
their car models?
# What is the fuel efficiency (in miles per gallon) of the Acura
Integra?
# Which car model has the longest wheelbase?
# Calculate the total curb weight of all the Chevrolet vehicles
combined.
# Which car model has the highest fuel capacity?
# Calculate the total number of passenger vehicles in the dataset.
# Which car model has the most recent launch date?
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# How many car models are included in the dataset?
# How many car models have a fuel efficiency of 25 miles per gallon (mpg)?
# What is the total sales in thousands for all passenger vehicles?
# Which car model has the lowest price among the cars?
# How many car models have a length greater than 190 inches?
# What is the average engine size for all the vehicles?
# Which manufacturer has the highest sales in thousands?
# How many car models have a curb weight less than 3,000 pounds?
# What is the average width of all the vehicles?
# Which manufacturer has the highest average length?
```

## **Input:-**

```
# 1.
highest_sales_model =
data['Model'].loc[data['Sales_in_thousands'].idxmax()]

# 2.
average_price = data['Price_in_thousands'].mean()

# 3.
vehicle_types_count = data['Vehicle_type'].nunique()

# 4.
highest_avg_horsepower_manufacturer =
data.groupby('Manufacturer')['Horsepower'].mean().idxmax()

# 5.
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acura_integra_fuel_efficiency = data.loc[data['Model'] == 'Integra',
'Fuel_efficiency'].values[0]

# 6.
longest_wheelbase_model = data['Model'].loc[data['Wheelbase'].idxmax()]

# 7.
chevrolet_total_curb_weight = data.loc[data['Manufacturer'] ==
'Chevrolet', 'Curb_weight'].sum()

# 8.
highest_fuel_capacity_model =
data['Model'].loc[data['Fuel_capacity'].idxmax()]

# 9.
passenger_vehicles_count = data.loc[data['Vehicle_type'] ==
'Passenger'].shape[0]

# 10.
latest_launch_model = data['Model'].loc[data['Latest_Launch'].idxmax()]

# Print the answers

print("1. Car model with the highest sales: ", highest_sales_model)
print("2. Average price of all vehicles: ", average_price)
print("3. Number of different vehicle types: ", vehicle_types_count)
print("4. Manufacturer with the highest average horsepower: ",
highest_avg_horsepower_manufacturer)
print("5. Fuel efficiency of Acura Integra: ",
acura_integra_fuel_efficiency)
print("6. Car model with the longest wheelbase: ",
longest_wheelbase_model)
print("7. Total curb weight of all Chevrolet vehicles: ",
chevrolet_total_curb_weight)
print("8. Car model with the highest fuel capacity: ",
highest_fuel_capacity_model)
print("9. Total number of passenger vehicles: ",
passenger_vehicles_count)
print("10. Car model with the most recent launch date: ",
latest_launch_model)

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#11
num_car_models = len(dataset)

#12
num_car_models_efficiency_25 = len(dataset[dataset['Fuel_efficiency'] ==
25])

#13
total_sales_passenger = dataset[dataset['Vehicle_type'] ==
'Passenger']['Sales_in_thousands'].sum()

#14
lowest_price_model = dataset.loc[dataset['Price_in_thousands'].idxmin(),
'Model']

#15
num_car_models_length_gt_190 = len(dataset[dataset['Length'] > 190])

#16
average_engine_size = dataset['Engine_size'].mean()

#17
manufacturer_highest_sales =
dataset.groupby('Manufacturer')['Sales_in_thousands'].sum().idxmax()

#18
num_car_models_curb_weight_lt_3000 = len(dataset[dataset['Curb_weight'] <
3])

#19
average_width = dataset['Width'].mean()

#20
manufacturer_highest_avg_length =
dataset.groupby('Manufacturer')['Length'].mean().idxmax()

```

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# Print the answers
print("11.Number of car models in the dataset:", num_car_models)
print("12.Number of car models with fuel efficiency of 25 mpg:",
num_car_models_efficiency_25)
print("13.Total sales in thousands for all passenger vehicles:",
total_sales_passenger)
print("14.Car model with the lowest price:", lowest_price_model)
print("15.Number of car models with length greater than 190 inches:",
num_car_models_length_gt_190)
print("16.Average engine size for all vehicles:", average_engine_size)
print("17.Manufacturer with the highest sales in thousands:",
manufacturer_highest_sales)
print("18.Number of car models with curb weight less than 3,000 pounds:",
num_car_models_curb_weight_lt_3000)
print("19.Average width of all vehicles:", average_width)

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print("20.Manufacturer with the highest average length:",
manufacturer_highest_avg_length)
```

## Output:-

1. Car model with the highest sales: F-Series
2. Average price of all vehicles: 22.239482758620692
3. Number of different vehicle types: 2
4. Manufacturer with the highest average horsepower: Audi
5. Fuel efficiency of Acura Integra: 28
6. Car model with the longest wheelbase: F-Series
7. Total curb weight of all Chevrolet vehicles: 11.011
8. Car model with the highest fuel capacity: Ram Van
9. Total number of passenger vehicles: 20
10. Car model with the most recent launch date:Contour
- 11.Number of car models in the dataset: 29
- 12.Number of car models with fuel efficiency of 25 mpg: 4
- 13.Total sales in thousands for all passenger vehicles: 1658
- 14.Car model with the lowest price: Metro
- 15.Number of car models with length greater than 190 inches: 16
- 16.Average engine size for all vehicles: 2.9758620689655166
- 17.Manufacturer with the highest sales in thousands: Ford
- 18.Number of car models with curb weight less than 3,000 pounds: 9
- 19.Average width of all vehicles: 71.57241379310346
- 20.Manufacturer with the highest average length: Cadilla

## Dataset used:-

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Manufact	Model	Sales_in_t	Vehicle_ty	Price_in_t	Price_in_t	Horsepow	Wheelbase	Width	Length	Curb_weig	Fuel_capa	Fuel_effici	Latest_Launch	
2	Acura	Integra	17	Passenger	21.5	1.8	140	101.2	67.3	172.4	2.639	13.2	28	#####	
3	Acura	TL	39	Passenger	28.4	3.2	225	108.1	70.3	192.9	3.517	17.2	25	#####	
4	Audi	A8	1	Passenger	62	4.2	310	113	74	198.2	3.902	23.7	21	2/27/2012	
5	BMW	323i	20	Passenger	26.99	2.5	170	107.3	68.4	176	3.179	16.6	26	6/28/2011	
6	Buick	LeSabre	83	Passenger	27.885	3.8	205	112.2	73.5	200	3.591	17.5	25	7/23/2011	
7	Cadillac	DeVille	64	Passenger	39.895	4.6	275	115.3	74.5	207.2	3.978	18.5	22	2/23/2012	
8	Chevrolet	Cavalier	146	Passenger	13.26	2.2	115	104.1	67.9	180.9	2.676	14.3	27	8/17/2011	
9	Chevrolet	Malibu	135	Passenger	16.535	3.1	170	107	69.4	190.4	3.051	15	25	3/19/2012	
10	Chevrolet	Metro	22	Passenger	9.235	1	55	93.1	62.6	149.4	1.895	10.3	45	4/13/2012	
11	Chevrolet	Impala	108	Passenger	18.89	3.4	180	110.5	73	200	3.389	17	27	6/18/2011	
12	Chrysler	Sebring Co	8	Passenger	19.84	2.5	163	103.7	69.7	190.9	2.967	15.9	24	1/16/2012	
13	Chrysler	LHS	13	Passenger	28.34	3.5	253	113	74.4	207.7	3.564	17	23	#####	
14	Chrysler	300M	31	Passenger	29.185	3.5	253	113	74.4	197.8	3.567	17	23	#####	
15	Dodge	Neon	76	Passenger	12.64	2	132	105	74.4	174.4	2.567	12.5	29	#####	
16	Dodge	Ram Van	31	Car	18.575	3.9	175	127.2	78.8	208.5	4.298	32	16	7/26/2012	
17	Dodge	Dakota	111	Car	16.98	2.5	120	131	71.5	215	3.557	22	19	11/25/2011	
18	Dodge	Durango	101	Car	26.31	5.2	230	115.7	71.7	193.5	4.394	25	17	6/27/2012	
19	Dodge	Caravan	182	Car	19.565	2.4	150	113.3	76.8	186.3	3.533	20	24	#####	
20	Ford	Escort	70	Passenger	12.07	2	110	98.4	67	174.7	2.468	12.7	30	3/31/2012	
21	Ford	Mustang	113	Passenger	21.56	3.8	190	101.3	73.1	183.2	3.203	15.7	24	1/31/2012	
22	Ford	Contour	35	Passenger	17.035	2.5	170	106.5	69.1	184.6	2.769	15	25	8/20/2012	
23	Ford	Taurus	246	Passenger	17.885	3	155	108.5	73	197.6	3.368	16	24	12/20/2011	
24	Ford	Ranger	221	Car	12.05	2.5	119	117.5	69.4	200.7	3.086	20	23	1/14/2012	
25	Ford	F-Series	541	Car	26.935	4.6	220	138.5	79.1	224.5	4.241	25.1	18	8/16/2012	
26	Honda	Civic	200	Passenger	12.885	1.6	106	103.2	67.1	175.1	2.339	11.9	32	10/21/2011	
27	Honda	Accord	231	Passenger	15.35	2.3	135	106.9	70.3	188.8	2.932	17.1	27	5/20/2012	
28	Honda	CR-V	73	Car	20.55	2	146	103.2	68.9	177.6	3.219	15.3	24	3/21/2012	
29	Honda	Passport	13	Car	26.6	3.2	205	106.4	70.4	178.2	3.857	21.1	19	#####	

