Car Sales Analysis in the United States for 2022 and 2023:

Trends and Market Performance

DEPI_ONL2_DAT1_G7

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Agenda:

1- Car_Sales Schema & ERD Diagram

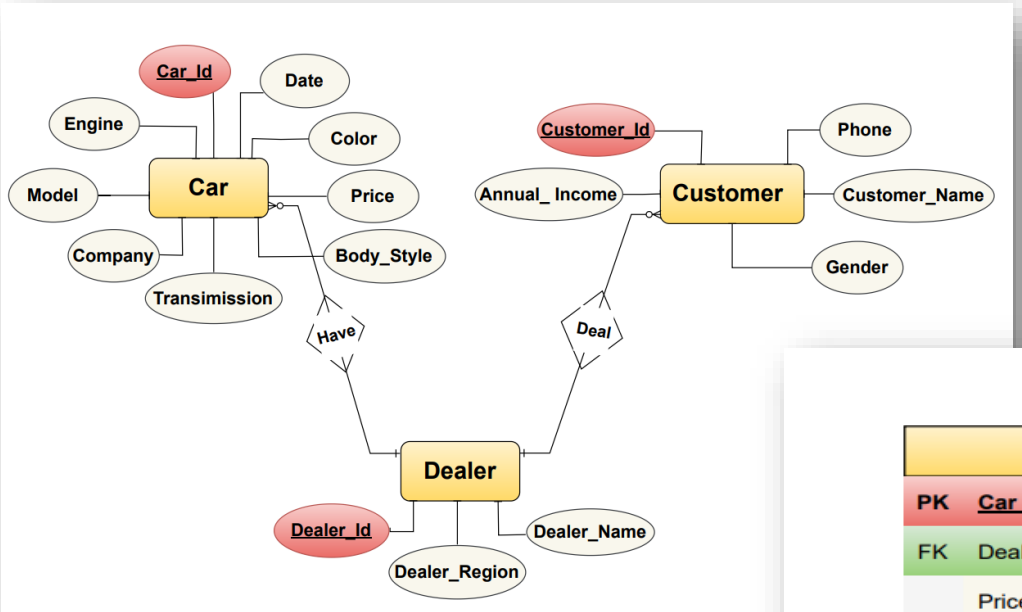
2- Database Creation

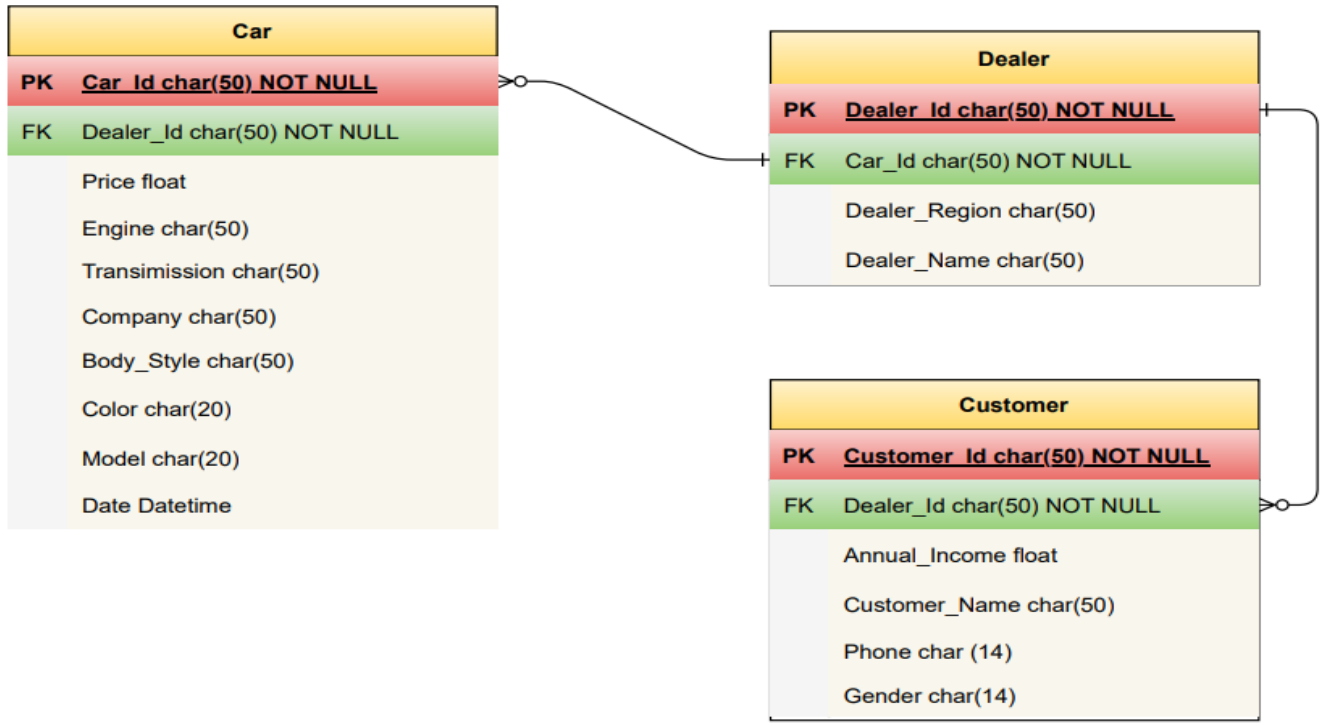
3- Data Analysis by SQL

4- Data Analysis by Python (Jupyter Notebook).

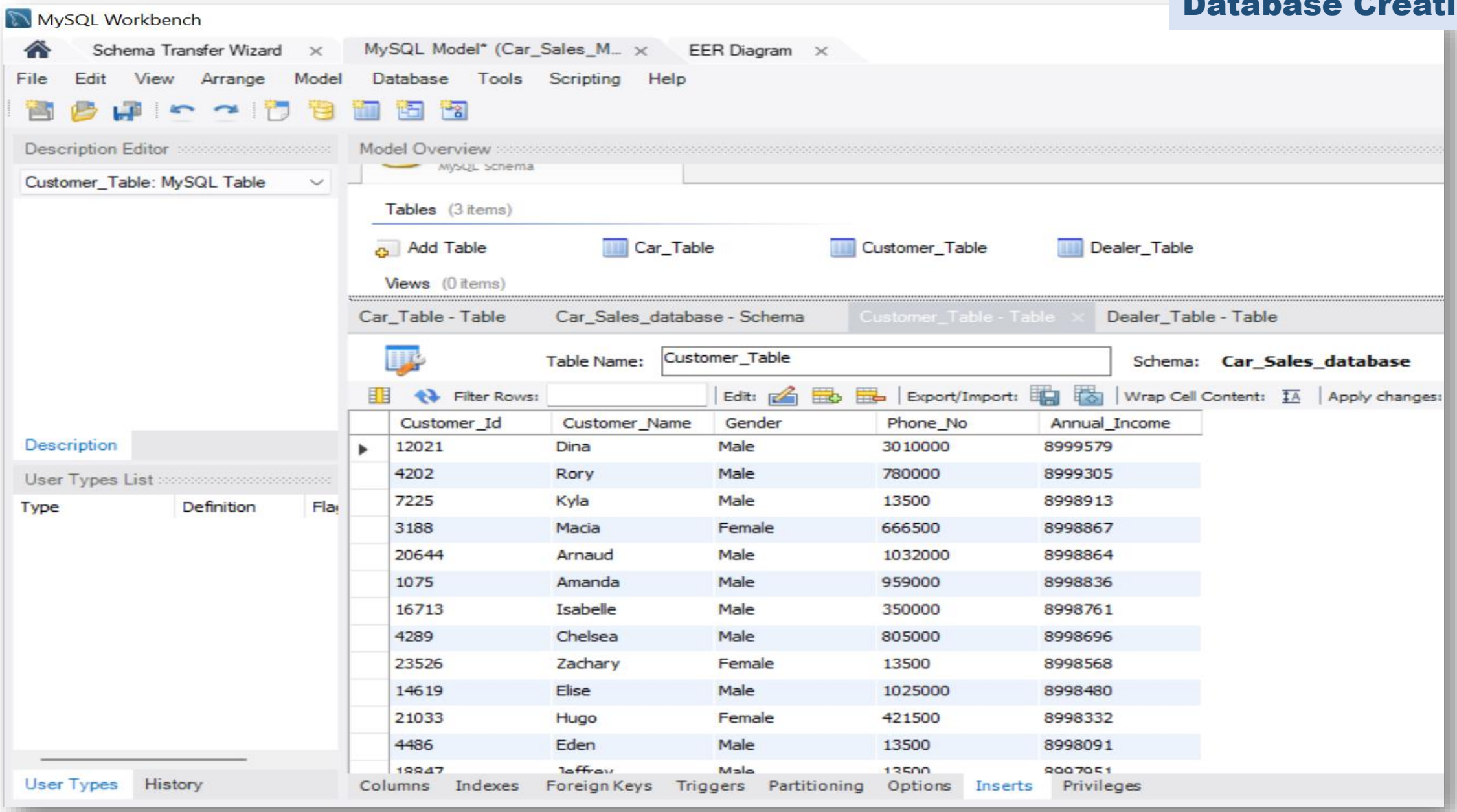
5- Data Visualization by Python (Jupyter Notebook).

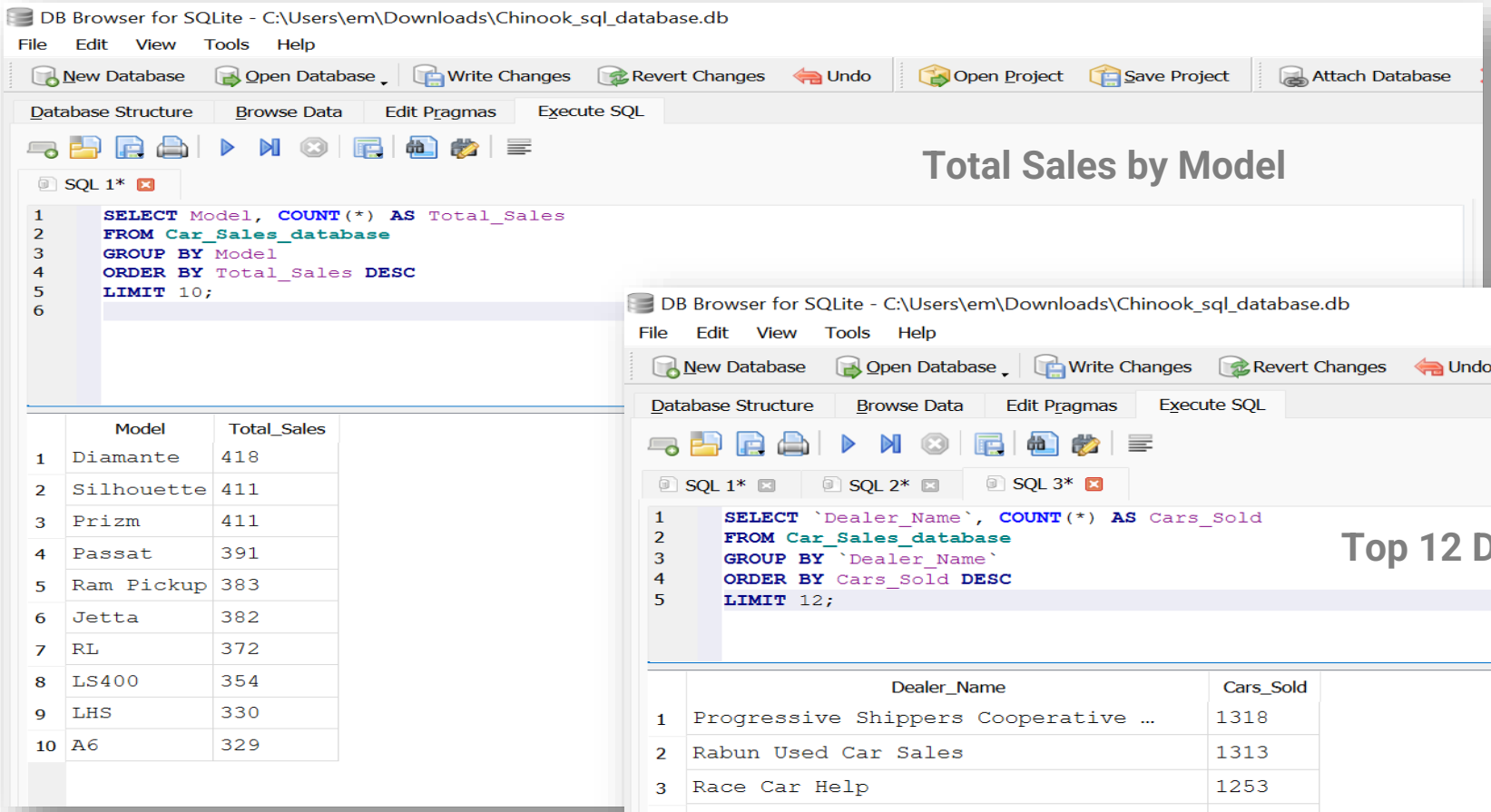
Car_Sales Schema & ERD Diagram

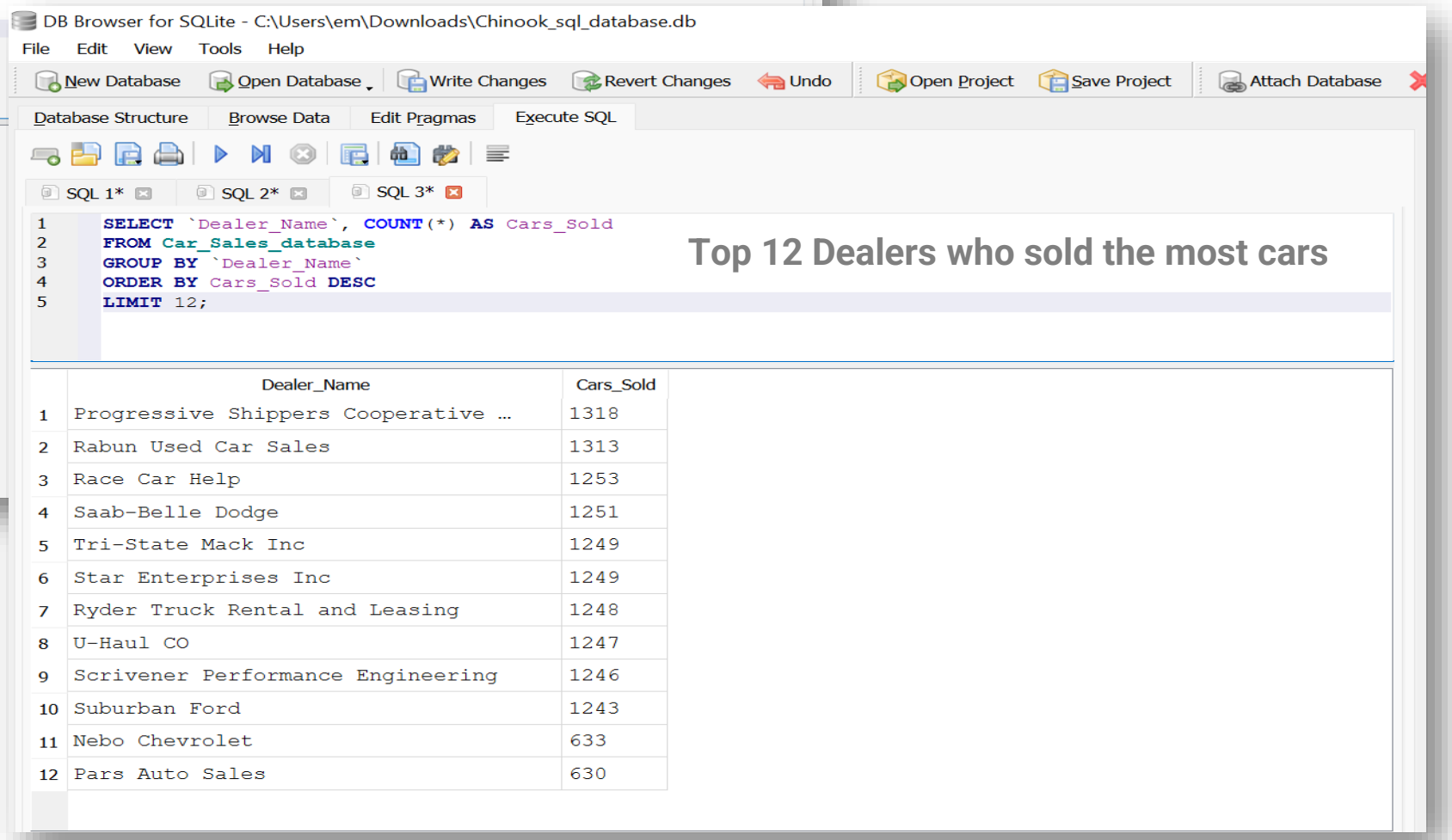




Database Creation







Data Analysis by SQL

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questions_Answers_Project 1.ipynb | cars.ipynb | Untitled-1

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+ Code + Markdown | Run All | Clear All Outputs | Outline ···

Statistical Calculations

Data Analysis by Python (Jupyter Notebook).

[11]
```
cars_db[['Annual_Income', 'Price($)']].describe()
```

	Annual_Income	Price($)
count	2.390600e+04	23906.000000
mean	8.308403e+05	28090.247846
std	7.200064e+05	14788.687608
min	1.008000e+04	1200.000000
25%	3.860000e+05	18001.000000
50%	7.350000e+05	23000.000000
75%	1.175750e+06	34000.000000
max	1.120000e+07	85800.000000

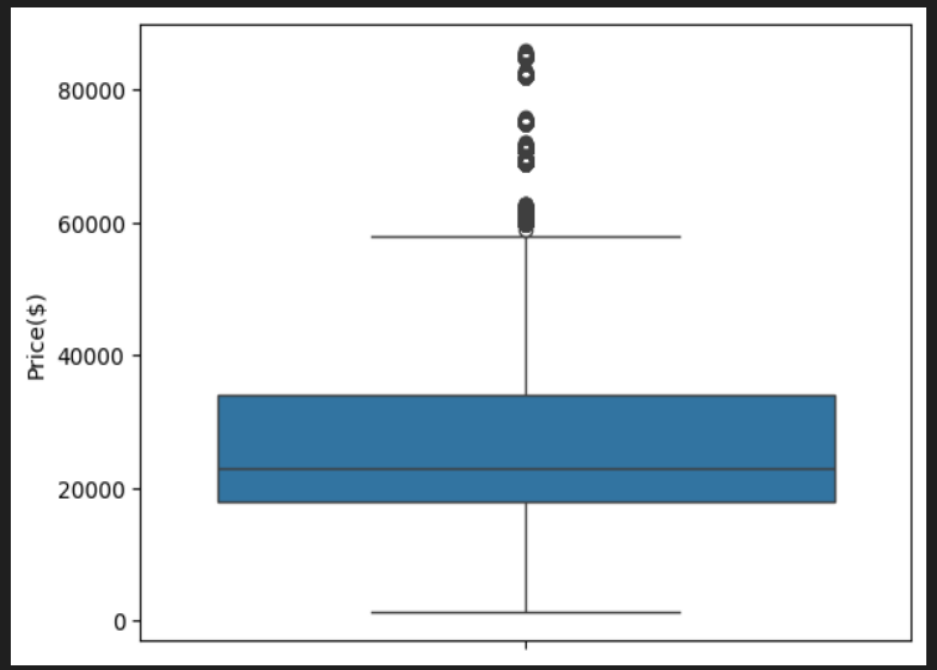
[12]
```
cars_db.groupby('Gender')[['Annual_Income', 'Price($)']].describe()
```

	Annual_Income								Price($)							
	count	mean	std	min	25%	50%	75%	max	count	mean	std	min	25%	50%	75%	max
Gender																
Female	5108.0	755973.021339	680366.122498	13500.0	370000.0	665000.0	1005000.0	6460000.0	5108.0	28277.265270	15150.053072	1200.0	18001.0	23000.0	34001.0	85500.0
Male	18798.0	851184.044207	729096.486619	10080.0	392500.0	760000.0	1210000.0	11200000.0	18798.0	28039.429407	14688.956304	1450.0	18001.0	23000.0	34000.0	85800.0

Data Visualization by Python (Jupyter Notebook).

```
[37]
sns.boxplot(cars_db['Price($)'])
```

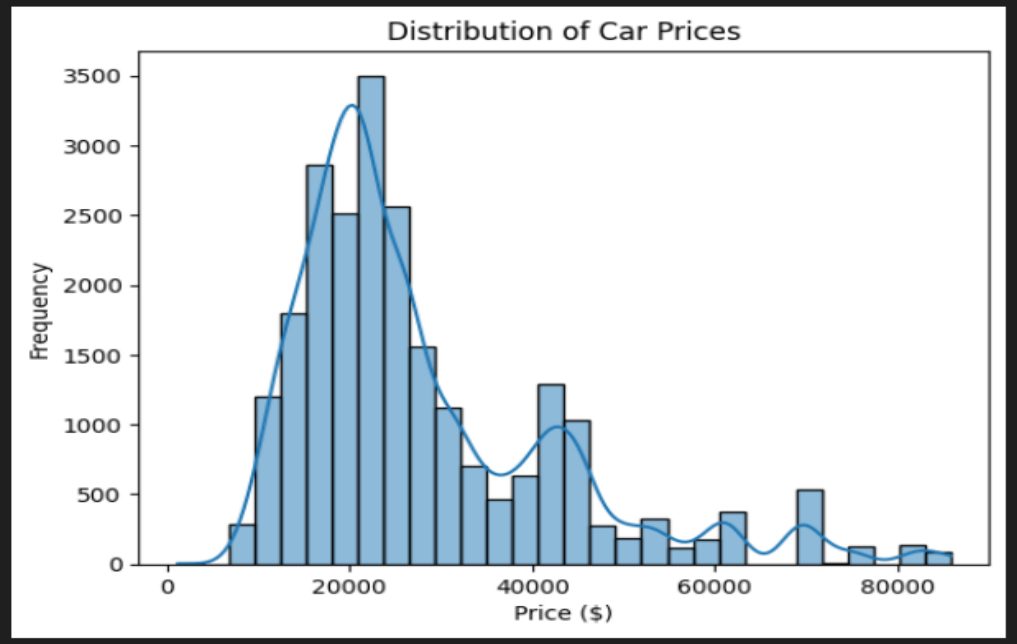
```
<Axes: ylabel='Price($)'>
```



Distribution of Car Prices

```
[59]
sns.histplot(cars_db['Price($)'], bins=30, kde=True)
plt.title('Distribution of Car Prices')
plt.xlabel('Price ($)')
plt.ylabel('Frequency')
```

```
Text(0, 0.5, 'Frequency')
```




THANK
YOU