

In [38]:

```
! pip install psycpg2-binary
```

Requirement already satisfied: psycpg2-binary in c:\users\91636\anaconda3\lib\site-packages (2.9.5)

In [2]:

```
! pip install snowflake-connector-python
```

Requirement already satisfied: snowflake-connector-python in c:\users\91636\anaconda3\lib\site-packages (2.8.2)  
Requirement already satisfied: filelock<4,>=3.5 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (3.6.0)  
Requirement already satisfied: pytz in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (2022.1)  
Requirement already satisfied: typing-extensions<5,>=4.3 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (4.3.0)  
Requirement already satisfied: asn1crypto<2.0.0,>0.24.0 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (1.5.1)  
Requirement already satisfied: pyjwt<3.0 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (2.4.0)  
Requirement already satisfied: idna<4,>=2.5 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (3.3)  
Requirement already satisfied: certifi<=2017.4.17 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (2022.9.14)  
Requirement already satisfied: oscryptodome!=3.5.0,<4.0.0,>=3.2 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (1.3.0)  
Requirement already satisfied: pycryptodome!=3.5.0,<4.0.0,>=3.2 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (3.15.0)  
Requirement already satisfied: requests<3.0.0 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (2.28.1)  
Requirement already satisfied: setuptools<34.0.0 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (63.4.1)  
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (2.0.4)  
Requirement already satisfied: rllib<1.27,>=1.21.1 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (1.26.11)  
Requirement already satisfied: cryptography<39.0.0,>=3.1.0 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (37.0.1)  
Requirement already satisfied: pyOpenSSL<23.0.0,>=16.2.0 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (22.0.0)  
Requirement already satisfied: cffi<2.0.0,>=1.9 in c:\users\91636\anaconda3\lib\site-packages (from snowflake-connector-python) (1.15.1)  
Requirement already satisfied: pycparser in c:\users\91636\anaconda3\lib\site-packages (from cffi<2.0.0,>=1.9->snowflake-connector-python) (2.21)

In [3]:

```
! pip install mysql-connector-python
```

Requirement already satisfied: mysql-connector-python in c:\users\91636\anaconda3\lib\site-packages (8.0.31)  
Requirement already satisfied: protobuf<=3.20.1,>=3.11.0 in c:\users\91636\anaconda3\lib\site-packages (from mysql-connector-python) (3.20.1)

In [ ]:

In [36]:

```
import os
import pymysql
import pandas as pd

conn = pymysql.connect(
    host="localhost",
    port=int(3306),
    db="ecommercestore",
    user="root",
    password="Nw!FmSQL63")
```

In [37]:

```
df=pd.read_sql_query("SELECT * FROM customers", conn)
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

In [38]:

```
df
```

	customer_id	first_name	last_name	birth_date	phone	email	street_address	city	state	points
0	1	Leonor	Syde	1978-11-16	862-639-0489	lsyde0@oakley.com	9396 Comanche Trail	Newark	NJ	3238.0
1	2	Conrado	Pinke	2001-08-16	512-440-3848	cpinke1@discovery.com	739 Pond Drive	Austin	TX	6860.0
2	3	Filmore	Linnit	1954-07-25	203-421-2312	flinnit2@nbcnews.com	3 Jenna Avenue	New Haven	CT	1506.0
3	4	Fee	Conneau	1994-10-04	480-382-3487	fconneau3@tinypic.com	67045 Pennsylvania Drive	Gilbert	AZ	2879.0
4	5	Molli	Butrimovich	1963-04-08	785-112-3346	mbutrimovich4@imdb.com	017 Norway Maple Pass	Topeka	KS	7665.0
...	...	...	...	...	...	...	...	...	...	...
95	96	Dyane	Cheevers	1997-03-25	225-231-2275	dcheevers2n@izl.jp	639 Lerdahl Center	Baton Rouge	LA	4617.0
96	97	Pavla	Shilvock	1989-10-03	636-992-6416	pshilvock2o@deviantart.com	16180 Warner Point	Saint Louis	MO	3852.0
97	98	Huberto	Cristofvao	1991-06-17	202-688-6844	hcristofvao2p@mayoclinic.com	02 Dennis Plaza	Washington	DC	2039.0
98	99	Jaclyn	Donnan	2000-12-23	217-531-3693	None	5 Randy Center	Springfield	IL	2701.0
99	100	Clemmy	Healey	1995-10-30	559-706-9568	None	0 Starling Crossing	Fresno	CA	9186.0

100 rows × 10 columns

In [39]:

```
#RETRIEVING DATA OF ORDERS AND THE RESPECTIVE PRODUCT NAMES FOR EACH ORDER
order_products=pd.read_sql_query("SELECT oi.order_id, oi.product_id, p.product_name FROM order_items oi JOIN products p USING(product_id)", conn)
order_products
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

Out[38]:

	order_id	product_id	product_name
0	1	1	Cabbage - Nappa
1	12	1	Cabbage - Nappa
2	14	1	Cabbage - Nappa
3	15	1	Cabbage - Nappa
4	16	1	Cabbage - Nappa
...	...	...	...
295	95	29	Lettuce - Curly Endive
296	97	29	Lettuce - Curly Endive
297	14	30	Wine - Red, Pelee Island Merlot
298	34	30	Wine - Red, Pelee Island Merlot
299	65	30	Wine - Red, Pelee Island Merlot

300 rows × 3 columns

In [41]:

```
! pip install flask-sqlalchemy
```

Collecting flask-sqlalchemy  
 Downloading Flask\_SQLAlchemy-3.0.2-py3-none-any.whl (24 kB)  
Requirement already satisfied: SQLAlchemy==1.4.18 in c:\users\91636\anaconda3\lib\site-packages (from flask-sqlalchemy) (1.4.39)  
Collecting Flask==2.2  
 Downloading Flask-2.2.2-py3-none-any.whl (101 kB)  
----- 101.5/101.5 kB 2.9 MB/s eta 0:00:00  
Collecting Jinja2==3.0  
 Downloading Jinja2-3.1.2-py3-none-any.whl (133 kB)  
----- 133.1/133.1 kB 8.2 MB/s eta 0:00:00  
Requirement already satisfied: itsdangerous>=2.0 in c:\users\91636\anaconda3\lib\site-packages (from Flask==2.2->flask-sqlalchemy) (2.0.1)  
Requirement already satisfied: importlib-metadata>=3.6.0 in c:\users\91636\anaconda3\lib\site-packages (from Flask==2.2->flask-sqlalchemy) (4.11.3)  
Collecting Werkzeug>=2.2.2  
 Downloading Werkzeug-2.2.2-py3-none-any.whl (232 kB)  
----- 232.7/232.7 kB ? eta 0:00:00  
Requirement already satisfied: click<=8.0 in c:\users\91636\anaconda3\lib\site-packages (from Flask==2.2->flask-sqlalchemy) (8.0.4)  
Requirement already satisfied: greenlet<=0.4.17 in c:\users\91636\anaconda3\lib\site-packages (from SQLAlchemy==1.4.18->flask-sqlalchemy) (1.1.1)  
Requirement already satisfied: colorama in c:\users\91636\anaconda3\lib\site-packages (from click<=8.0->Flask==2.2->flask-sqlalchemy) (0.4.5)  
Requirement already satisfied: zipp>=0.5 in c:\users\91636\anaconda3\lib\site-packages (from importlib-metadata==3.6.0->Flask==2.2->flask-sqlalchemy) (3.8.0)  
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\91636\anaconda3\lib\site-packages (from Jinja2>=3.0->Flask==2.2->flask-sqlalchemy) (2.0.1)  
Collecting MarkupSafe>=2.0  
 Downloading MarkupSafe-2.1.1-cp39-cp39-win\_amd64.whl (17 kB)  
Installing collected packages: MarkupSafe, Werkzeug, Jinja2, Flask, flask-sqlalchemy  
 Attempting uninstall: MarkupSafe  
 Found existing installation: MarkupSafe 2.0.1  
 Uninstalling MarkupSafe-2.0.1:  
 Successfully uninstalled MarkupSafe-2.0.1  
 Attempting uninstall: Werkzeug  
 Found existing installation: Werkzeug 2.0.3  
 Uninstalling Werkzeug-2.0.3:  
 Successfully uninstalled Werkzeug-2.0.3  
 Attempting uninstall: Jinja2  
 Found existing installation: Jinja2 2.11.3  
 Uninstalling Jinja2-2.11.3:  
 Successfully uninstalled Jinja2-2.11.3  
 Attempting uninstall: Flask  
 Found existing installation: Flask 1.1.2  
 Uninstalling Flask-1.1.2:  
 Successfully uninstalled Flask-1.1.2  
Successfully installed Flask-2.2.2 Jinja2-3.1.2 MarkupSafe-2.1.1 Werkzeug-2.2.2 flask-sqlalchemy-3.0.2  
ERROR: pip's dependency resolver does not currently take into account all the packages that are installed. This behaviour is the source of the following dependency conflicts.  
anaconda-project 0.11.1 requires ruamel-yaml, which is not installed.

In [42]:

```
from flask_sqlalchemy import SQLAlchemy
```

In [43]:

```
#RETRIEVING THE MODE OF PAYMENT FOR EACH PAYMENT ID
payment_method=pd.read_sql_query("select payment_id, payment_date, mode_of_payment from payments join payment_method using(payment_method_id);", conn)
payment_method
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

Out[43]:

	payment_id	payment_date	mode_of_payment
0	1	2017-08-29	cash
1	3	2022-05-11	cash
2	4	2017-03-23	cash
3	6	2017-01-28	cash
4	7	2017-08-27	cash
...	...	...	...
95	95	2022-06-10	card
96	96	2020-01-07	card
97	97	2019-09-20	card
98	99	2016-05-02	card
99	100	2016-04-12	card

100 rows × 3 columns

In [45]:

```
#RETRIEVING THE DATA OF CUSTOMERS AND THEIR RESPECTIVE PAYMENTS
order_payments=pd.read_sql_query("select opd.customer_id, opd.payment_id, c.first_name, c.last_name, c.phone, p.total_amount from order_payments_details opd join customers c using(customer_id)
order_payments
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

Out[45]:

	customer_id	payment_id	first_name	last_name	phone	total_amount
0	20	100	Kipp	Brugger	915-815-0922	59.75
1	82	99	Lindy	Chadderton	360-956-0318	71.63
2	81	98	Alejandro	Marineau	432-582-0536	33.31
3	2	97	Conrado	Pinke	512-440-3848	68.53
4	11	96	Jarred	Skeldon	303-102-2637	50.48
...	...	...	...	...	...	...
95	22	5	Dottie	Faulder	309-672-2052	77.42
96	29	4	Tiler	Stanton	727-939-9125	17.60
97	11	3	Jarred	Skeldon	303-102-2637	59.14
98	56	2	Anselm	Clemerson	214-269-2074	45.22
99	14	1	Hakeem	Vasnetsov	402-813-2250	41.75

100 rows × 6 columns

In [47]:

```
#RETRIEVING DATA OF ORDERS THAT DO NOT HAVE SHIPPERS
order_shippers=pd.read_sql_query("select o.order_id, o.order_date, s.shipper_name, s.shipper_id from orders o left join shippers s using(shipper_id) where s.shipper_id is null", conn)
order_shippers
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

Out[47]:

	order_id	order_date	shipper_name	shipper_id
0	1	2017-08-29	None	None
1	5	2018-04-20	None	None
2	6	2017-01-28	None	None
3	9	2017-12-24	None	None
4	11	2016-06-02	None	None
5	12	2015-12-09	None	None
6	14	2018-01-14	None	None
7	17	2018-09-13	None	None
8	18	2019-03-15	None	None
9	21	2020-12-17	None	None
10	30	2017-07-26	None	None
11	32	2021-10-29	None	None
12	40	2019-07-08	None	None
13	46	2016-05-03	None	None
14	47	2015-11-07	None	None
15	48	2019-11-30	None	None
16	50	2020-03-27	None	None
17	54	2018-09-05	None	None
18	56	2020-05-30	None	None
19	61	2018-03-06	None	None
20	63	2020-12-03	None	None
21	64	2016-06-26	None	None
22	69	2021-05-11	None	None
23	73	2018-07-18	None	None
24	74	2017-06-09	None	None
25	75	2019-05-11	None	None
26	76	2020-10-22	None	None
27	77	2022-06-04	None	None
28	79	2016-08-09	None	None
29	90	2021-08-11	None	None
30	91	2021-01-15	None	None
31	92	2018-11-02	None	None
32	95	2022-06-10	None	None
33	96	2020-01-07	None	None
34	98	2021-04-27	None	None

In [48]:

```
membership_type=pd.read_sql_query("SELECT c.customer_id, c.first_name, c.last_name, c.phone, m.membership_type FROM customers c JOIN membership m using(customer_id)", conn)
membership_type
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

Out[48]:

	customer_id	first_name	last_name	phone	membership_type
0	1	Leonor	Syde	862-639-0489	gold
1	2	Conrado	Pinke	512-440-3848	None
2	3	Filmore	Linnit	203-421-2312	gold
3	4	Fee	Conneau	480-382-3487	gold
4	5	Molli	Butrimovich	785-112-3346	silver
...	...	...	...	...	...
95	96	Dyane	Cheevers	225-231-2275	silver
96	97	Pavla	Shilvock	636-992-6416	platinum
97	98	Huberto	Cristofvao	202-688-6844	None
98	99	Jaclyn	Donnan	217-531-3693	gold
99	100	Clemmy	Healey	559-706-9568	gold

100 rows × 5 columns

In [49]:

```
discount=pd.read_sql_query("select c.customer_id, c.first_name, c.last_name,oi.total, (0.85*oi.total) as effective_price, c.points from customers c join order_payments_details opd on opd.order_id=c.customer_id
discount
```

C:\Users\91636\anaconda3\lib\site-packages\pandas\io\sql.py:762: UserWarning: pandas only support SQLAlchemy connectable(engine/connection) or database string URI or sqlite3 DBAPI2 connectionother DBAPI2 objects are not tested, please consider using SQLAlchemy warnings.warn(

Out[49]:

	customer_id	first_name	last_name	total	effective_price	points
0	20	Kipp	Brugger	12.20	10.370	9881
1	20	Kipp	Brugger	25.48	21.517	9881
2	82	Lindy	Chadderton	29.58	21.658	7865
3	82	Lindy	Chadderton	19.74	16.779	7865
4	2	Conrado	Pinke	11.96	10.166	6860
...	...	...	...	...	...	...
127	29	Tiler	Stanton	50.82	43.197	7856
128	11	Jarred	Skeldon	30.36	25.806	9435
129	11	Jarred	Skeldon	2.95	2.508	9435
130	14	Hakeem	Vasnetsov	10.45	8.882	7653
131	14	Hakeem	Vasnetsov	49.30	41.905	7653

132 rows × 6 columns

In [ ]: