

▼ Collect Shopping Data from SQLite

Now you have learned how to collect data from a SQLite database. Let's practice!

The attached `shopping.sqlite` file contains a dummy shopping dataset. Try to use your knowledge of collecting data from a SQL database, and retrieve information from it.

▼ Establish the connection

```
import sqlite3

connection = sqlite3.connect('/content/shopping.sqlite')
cursor = connection.cursor()

query = '''
SELECT name FROM sqlite_master
WHERE type='table';
'''

cursor.execute(query)
results = cursor.fetchall()
results

[('customer_shopping_data',)]
```

▼ Retrieve information from the database

```
query = '''SELECT *
FROM customer_shopping_data
Limit 3'''

cursor.execute(query)
results = cursor.fetchall()
results

[('I138884',
 'C241288',
 'Female',
 28,
 'Clothing',
 5,
 1500.4,
 'Credit Card',
 '5/8/2022',
```

```
'Kanyon'),
('I317333',
 'C111565',
 'Male',
 21,
 'Shoes',
 3,
 1800.51,
 'Debit Card',
 '12/12/2021',
 'Forum Istanbul'),
('I127801',
 'C266599',
 'Male',
 20,
 'Clothing',
 1,
 300.08,
 'Cash',
 '9/11/2021',
 'Metrocity')]
```

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```
### Fetch all records.
```

Fetch all records.

```
query = '''SELECT *
FROM customer_shopping_data
'''
```

```
cursor.execute(query)
results = cursor.fetchall()
```

▼ Columns' names

We learned that the missing columns' names are: ['invoice_no', 'customer_id', 'gender', 'age', 'category', 'quantity', 'price', 'payment_method', 'invoice_date', 'shopping_mall'].

Combine this information and create a DataFrame of the shopping data, then save it to a CSV file for later use.

```
cols = ['invoice_no',
        'customer_id',
        'gender',
        'age',
        'category',
```

```

'quantity',
'price',
'payment_method',
'invoice_date',
'shopping_mall']

```

```
import pandas as pd
```

```

df = pd.DataFrame(results, columns= cols)
df.info()

```

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 16029 entries, 0 to 16028
Data columns (total 10 columns):
#   Column                Non-Null Count  Dtype
---  -
0   invoice_no            16029 non-null  object
1   customer_id           16029 non-null  object
2   gender                16029 non-null  object
3   age                   16029 non-null  int64
4   category              16029 non-null  object
5   quantity              16029 non-null  int64
6   price                 16029 non-null  float64
7   payment_method        16029 non-null  object
8   invoice_date          16029 non-null  object
9   shopping_mall         16029 non-null  object
dtypes: float64(1), int64(2), object(7)
memory usage: 1.2+ MB

```

```
df.head()
```

	invoice_no	customer_id	gender	age	category	quantity	price	payment_method
0	I138884	C241288	Female	28	Clothing	5	1500.40	Credit Car
1	I317333	C111565	Male	21	Shoes	3	1800.51	Debit Car
2	I127801	C266599	Male	20	Clothing	1	300.08	Cas
3	I173702	C988172	Female	66	Shoes	5	3000.85	Credit Car
4	I337046	C189076	Female	53	Books	4	60.60	Cas

▼ Save your retrieve information as a CSV file

```
df.to_csv('/content/shopping.csv')
```

