

Assignment 2: Database Operations

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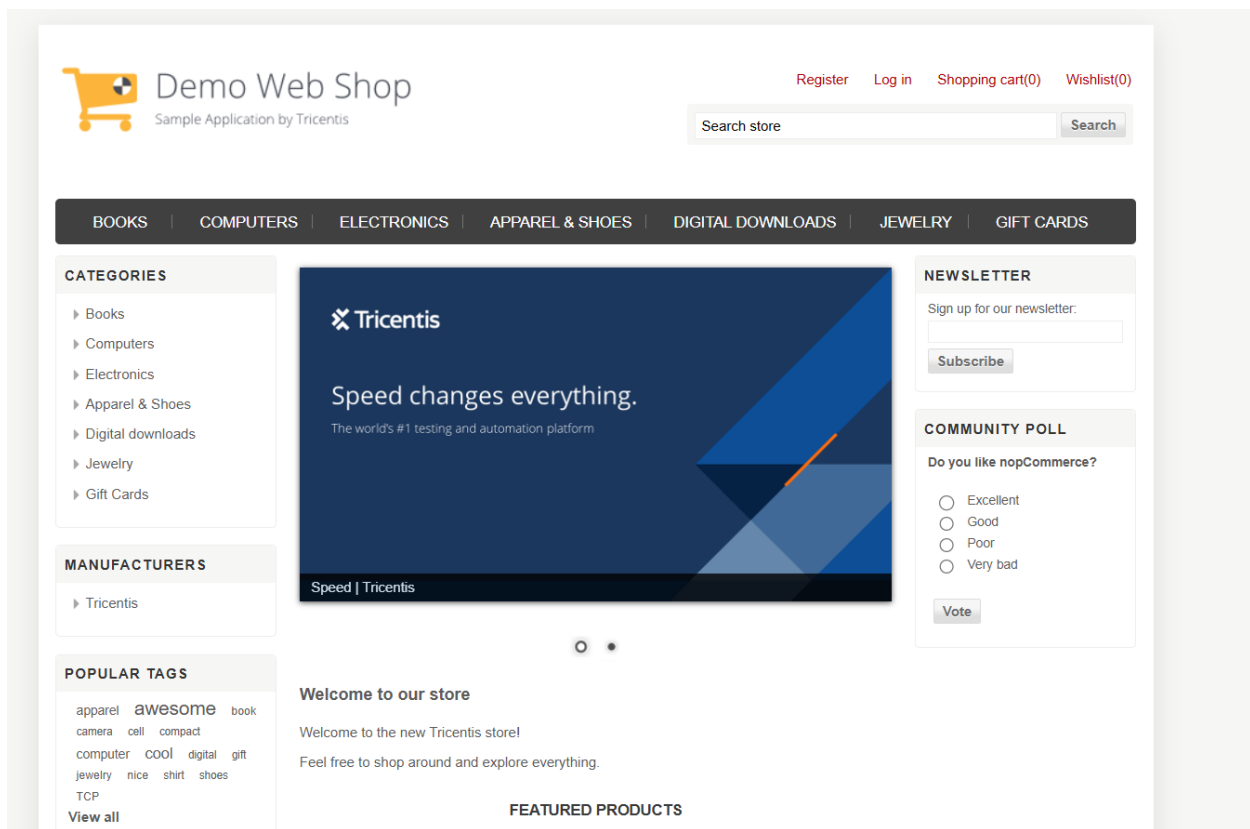
Dated: 31st October 2024

Task:

- Prepare a database table for all the products listed under the demo tricentis application. There are around 70 items. You can use insert queries to insert values in database.
 - Table columns may include: id/ productName/ category/ price/ quantity
- Create a table for registered users.
 - Table columns can include columns like id/ email/ password/ isActive/ environment

Tricentis Application:

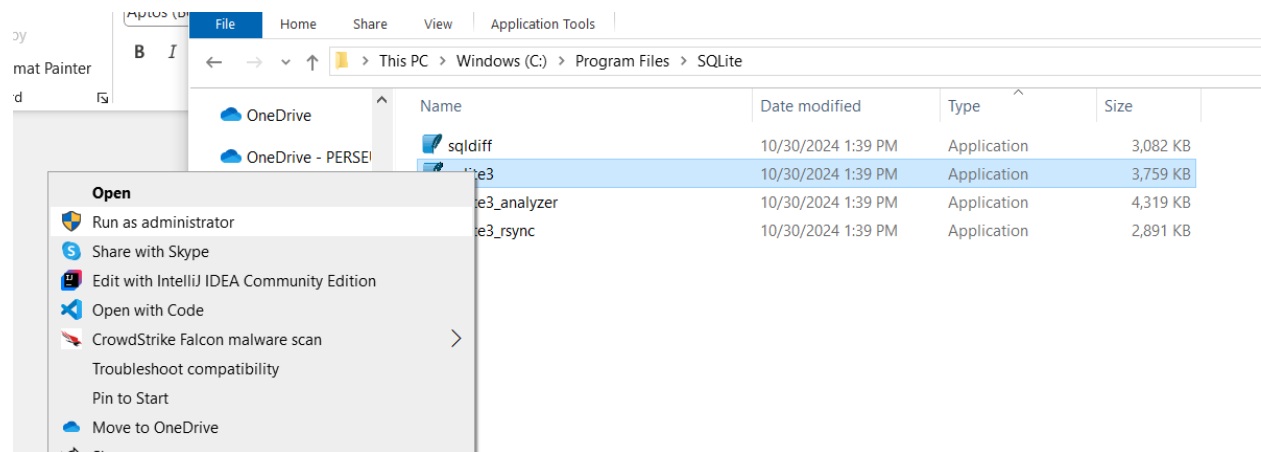
Link: <https://demowebshop.tricentis.com/>



Database Operations:

1. All Products t=Table:

- Open the SQLite command line interface from this directory **C:\ProgramFiles\SQLite** by running it as administrator.



- Once open, now we will create a database table from the SQLite CLI at such a location which is easily accessible for the administrator.
- Now go that directory and create a table named products or items with the following command:

`.open C:/Users/munirhuz/Desktop/products.db`

```
Use ".open FILENAME" to reopen on a persistent database.
sqlite> .open C:/Users/munirhuz/Desktop/products.db
sqlite>
```

- After this, create a table in the format mentioned in the task's problem statement and instructions with the following command:
CREATE TABLE products (id INTEGER PRIMARY KEY AUTOINCREMENT,
productName TEXT NOT NULL, category TEXT NOT NULL, price REAL NOT NULL,
quantity INTEGER NOT NULL);

```
sqlite> CREATE TABLE products (id INTEGER PRIMARY KEY AUTOINCREMENT, productName TEXT NOT NULL, category TEXT NOT NULL, price REAL NOT NULL, quantity INTEGER NOT NULL);
...> CREATE TABLE products (id INTEGER PRIMARY KEY AUTOINCREMENT, productName TEXT NOT NULL, category TEXT NOT NULL, price REAL NOT NULL, quantity INTEGER NOT NULL);
Parse error: near "CREATE": syntax error
, price REAL NOT NULL, quantity INTEGER NOT NULL) CREATE TABLE products (id IN
error here ---^
sqlite> .tables
```

- As you see above, I forgot to write the semicolon at the end of the query which resulted in an error shown on the CLI.
- Then in the next step I checked if the table was created or not with the ".tables" command. And as a precaution I ran the following command to drop any tables if they existed before with this command:
DROP TABLE IF EXISTS products;
- Then run the CREATE TABLE products command again. Now, it will run. You can verify it by running the ".tables" command again.
- Now, we start the insertions in this table.

Insertion Queries:

○ **Books:**

Enter the following the commands.

➤ INSERT INTO products (productName, category, price, quantity) VALUES ('Computing and Internet', 'General', 30.0, 10);

- INSERT INTO products (productName, category, price, quantity) VALUES ('Copy of Computing & Internet EX', 'General', 30.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Fiction', 'General', 35.0, 30);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Fiction EX', 'General', 35.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Health Book', 'General', 27.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Science', 'General', 67.0, 40)

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Computing and Internet', 'General', 30.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Copy of Computing & Internet EX', 'General', 30.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Fiction', 'General', 35.0, 30);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Fiction EX', 'General', 35.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Health Book', 'General', 27.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Science', 'General', 67.0, 40);
```

- Now, check if all the entries were entered correctly with this query:
SELECT * FROM products WHERE category = 'General';

```
sqlite> SELECT * FROM products WHERE category = 'General';
1|Computing and Internet|General|30.0|10
2|Copy of Computing & Internet EX|General|30.0|20
3|Fiction|General|35.0|30
4|Fiction EX|General|35.0|20
5|Health Book|General|27.0|10
6|Science|General|67.0|40
sqlite>
```

- Now, I am thinking to change the category of the above queries because general won't really define what a product is. So, I am changing it to 'Books'.
UPDATE products SET category = 'Books' WHERE category = 'General';
SELECT * FROM products WHERE category = 'Bo

```
sqlite> UPDATE products SET category = 'Books' WHERE category = 'General';
sqlite> SELECT * FROM products WHERE category = 'Books';
1|Computing and Internet|Books|30.0|10
2|Copy of Computing & Internet EX|Books|30.0|20
3|Fiction|Books|35.0|30
4|Fiction EX|Books|35.0|20
5|Health Book|Books|27.0|10
6|Science|Books|67.0|40
sqlite> ■
```

- **Computers:**

The computers category has following categories in it:

- **Desktops:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('Build your own cheap computer', 'Desktops', 800.0,10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Build your own computer', 'Desktops', 1200.0,20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Build your own expensive computer', 'Desktops', 1800.0,30);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Desktop PC with CDRW', 'Desktops', 500.0,10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Elite Desktop PC', 'Desktops', 1350.0,10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Simple Computer', 'Desktops', 800.0,20);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Build your own cheap computer', 'Desktops', 800.0,10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Build your own computer', 'Desktops', 1200.0,20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Build your own expensive computer', 'Desktops', 1800.0,30);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Desktop PC with CDRW', 'Desktops', 500.0,10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Elite Desktop PC', 'Desktops', 1350.0,10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Simple Computer', 'Desktops', 800.0,20);
```

- Now, let's verify if they have been properly inserted.
- SELECT * FROM products WHERE category = 'Desktops';

```
7|Build your own cheap computer|Desktops|800.0|10
8|Build your own computer|Desktops|1200.0|20
9|Build your own expensive computer|Desktops|1800.0|30
10|Desktop PC with CDRW|Desktops|500.0|10
11|Elite Desktop PC|Desktops|1350.0|10
12|Simple Computer|Desktops|800.0|20
sqlite> _
```

➤ **Notebooks:**

Now, type the following commands to insert notebook products:

INSERT INTO products (productName, category, price, quantity) VALUES ('14.1-inch Laptop', 'Notebooks', 1590.0, 10);

```
sqlite> SELECT * FROM products WHERE category = 'Notebooks';
23|14.1-inch Laptop|Notebooks|1590.0|10
sqlite>
```

➤ **Accessories:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Coaching day', 'Accessories', 1000.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Instructor Led Training', 'Accessories', 9000.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Public Complete', 'Accessories', 3000.0, 10);

- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Public MT/AT', 'Accessories', 1700.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Public RPA/TCD', 'Accessories', 1700.0, 30);
- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Self-Paced Training', 'Accessories', 400.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Self-Paced Training additional month', 'Accessories', 400.0, 40);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Coaching day', 'Accessories', 1000.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Instructor Led Training', 'Accessories', 9000.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Public Complete', 'Accessories', 3000.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Public MT/AT', 'Accessories', 1700.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Public RPA/TCD', 'Accessories', 1700.0, 30);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Self-Paced Training', 'Accessories', 400.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('TCP Self-Paced Training additional month', 'Accessories', 400.0, 40);
```

- Now, let's verify:
SELECT * FROM products WHERE category = 'Accessories';

```
sqlite> SELECT * FROM products WHERE category = 'Accessories';
24|TCP Coaching day|Accessories|1000.0|10
25|TCP Instructor Led Training|Accessories|9000.0|10
26|TCP Public Complete|Accessories|3000.0|10
27|TCP Public MT/AT|Accessories|1700.0|10
28|TCP Public RPA/TCD|Accessories|1700.0|30
29|TCP Self-Paced Training|Accessories|400.0|20
30|TCP Self-Paced Training additional month|Accessories|400.0|40
```

○ **Electronics:**

➤ **Camera-Photo:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('1MP 60GB Hard Drive Handycam Camcorder', 'Camera-photo', 349.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Camcorder', 'Camera-photo', 530.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Digital SLR Camera 12.2 Mpixel', 'Camera-photo', 500.0, 30);
- INSERT INTO products (productName, category, price, quantity) VALUES ('High Definition 3D Camcorder', 'Camera-photo', 1300.0, 10);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('1MP 60GB Hard Drive Handycam Camcorder', 'Camera-photo', 349.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Camcorder', 'Camera-photo', 530.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Digital SLR Camera 12.2 Mpixel', 'Camera-photo', 500.0, 30);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('High Definition 3D Camcorder', 'Camera-photo', 1300.0, 10);
```

- Now, let's verify:
SELECT * FROM products WHERE category = 'Camera-photo';

```
sqlite> SELECT * FROM products WHERE category = 'Camera-photo';
31|1MP 60GB Hard Drive Handycam Camcorder|Camera-photo|349.0|20
32|Camcorder|Camera-photo|530.0|10
33|Digital SLR Camera 12.2 Mpixel|Camera-photo|500.0|30
34|High Definition 3D Camcorder|Camera-photo|1300.0|10
sqlite> █
```

➤ **Cell-Phones:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('Smartphone', 'Cell-phones', 100.0, 40);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Used phone', 'Cell-phones', 5.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Phone Cover', 'Cell-phones', 10.0, 20);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Smartphone', 'Cell-phones', 100.0, 40);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Used phone', 'Cell-phones', 5.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Phone Cover', 'Cell-phones', 10.0, 20);
```

- Now, let's verify:
SELECT * FROM products WHERE category = 'Cell-phones';

```
sqlite> SELECT * FROM products WHERE category = 'Cell-phones';
35|Smartphone|Cell-phones|100.0|40
36|Used phone|Cell-phones|5.0|10
37|Phone Cover|Cell-phones|10.0|20
sqlite>
```

○ **Apparel & Shoes:**

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top JR Plus Size', 'Apparel', 11.0, 30);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Blue and green Sneaker', 'Shoes', 11.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Blue Jeans', 'Apparel', 1.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Casual Golf Belt', 'Apparel-Accessories', 1.0, 40);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Custom T-Shirt', 'Apparel', 15.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Denim Short with Rhinestones', 'Apparel', 10.0, 30);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Genuine Leather Handbag with Cell Phone Holder & Many Pockets', 'Apparel-Accessories', 35.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Green and blue Sneaker', 'Shoes', 17.56, 40);
sqlite>
```

When entering the first query with the name “50’s Rockabilly Polka Dot” I got the error:

```
' ...> INSERT INTO products (productName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top JR Plus Size', 'Apparel', 11.0, 30);
Parse error: near "s": syntax error
    oductName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top J
        error here ---^
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top JR Plus Size', 'Apparel', 11.0, 30);
' ...> INSERT INTO products (productName, category, price, quantity) VALUES ('50s Rockabilly Polka Dot Top JR Plus Size', 'Apparel', 11.0, 30);
' ...> INSERT INTO products (productName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top JR Plus Size', 'Apparel', 11.0, 30);
Parse error: near "s": syntax error
    oductName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top J
        error here ---^
```

To resolve this issue, look at the query under apparel. Just use 2 apostrophes instead of one with 50 like this: 50''s. The error occurs because SQLite interprets the single quote (') in "50's" as the end of the string, causing a syntax issue.

➤ **Apparel:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('50's Rockabilly Polka Dot Top JR Plus Size', 'Apparel', 11.0, 30);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Blue Jeans', 'Apparel', 1.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Custom T-Shirt', 'Apparel', 15.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Denim Short with Rhinestones', 'Apparel', 10.0, 30);
- Now, let's verify:
SELECT * FROM products WHERE category = 'Apparel';

```
sqlite> SELECT * FROM products WHERE category = 'Apparel';
38|50's Rockabilly Polka Dot Top JR Plus Size|Apparel|11.0|30
40|Blue Jeans|Apparel|1.0|20
42|Custom T-Shirt|Apparel|15.0|20
43|Denim Short with Rhinestones|Apparel|10.0|30
sqlite> _
```

➤ **Apparel-Accessories:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('Casual Golf Belt', 'Apparel-Accessories', 1.0, 40);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Genuine Leather Handbag with Cell Phone Holder & Many Pockets', 'Apparel-Accessories', 35.0, 20);
- Now, let's verify:
SELECT * FROM products WHERE category = 'Apparel-Accessories';

```
sqlite> SELECT * FROM products WHERE category = 'Apparel-Accessories';
41|Casual Golf Belt|Apparel-Accessories|1.0|40
44|Genuine Leather Handbag with Cell Phone Holder & Many Pockets|Apparel-Accessories|35.0|20
sqlite> _
```

➤ **Shoes:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('Blue and green Sneaker', 'Shoes', 11.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Green and blue Sneaker', 'Shoes', 17.56, 40);
- Now, let's verify:
SELECT * FROM products WHERE category = 'Shoes';

```
sqlite> SELECT * FROM products WHERE category = 'Shoes';
39|Blue and green Sneaker|Shoes|11.0|10
45|Green and blue Sneaker|Shoes|17.56|40
sqlite> _
```

○ **Digital Downloads:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('3rd Album', 'General', 1.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Music 2', 'General', 10.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Music 2', 'General', 3.0, 40);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('3rd Album', 'General', 1.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Music 2', 'General', 10.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Music 2', 'General', 3.0, 40);
sqlite>
```

- Now, verify:
SELECT * FROM products WHERE category = 'General';

```
sqlite> SELECT * FROM products WHERE category = 'General';
46|3rd Album|General|1.0|10
47|Music 2|General|10.0|20
48|Music 2|General|3.0|40
sqlite> _
```

○ **Jewelry:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('Create Your Own Jewelry', 'Jewelry', 100.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Black & White Diamond Heart', 'Jewelry', 130.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Diamond Pave Earrings', 'Jewelry', 350.0, 20);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Diamond Tennis Bracelet', 'Jewelry', 360.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('Vintage Style Three Stone Diamond Engagement Ring', 'Jewelry', 2100.0, 10);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Create Your Own Jewelry', 'Jewelry', 100.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Black & White Diamond Heart', 'Jewelry', 130.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Diamond Pave Earrings', 'Jewelry', 350.0, 20);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Diamond Tennis Bracelet', 'Jewelry', 360.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('Vintage Style Three Stone Diamond Engagement Ring', 'Jewelry', 2100.0, 10);
sqlite> _
```

- Now, verify:
SELECT * FROM products WHERE category = 'Jewelry';

```
sqlite> SELECT * FROM products WHERE category = 'Jewelry';
49|Create Your Own Jewelry|Jewelry|100.0|10
50|Black & White Diamond Heart|Jewelry|130.0|20
51|Diamond Pave Earrings|Jewelry|350.0|20
52|Diamond Tennis Bracelet|Jewelry|360.0|10
53|Vintage Style Three Stone Diamond Engagement Ring|Jewelry|2100.0|10
sqlite> █
```

- **Gift Cards:**

- **Virtual Gift Cards:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('\$5 Virtual Gift Card', 'VGiftCards', 5.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('\$25 Virtual Gift Card', 'VGiftCards', 25.0, 10);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('$5 Virtual Gift Card', 'VGiftCards', 5.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('$25 Virtual Gift Card', 'VGiftCards', 25.0, 10);
```

- Now, verify:
SELECT * FROM products WHERE category = 'VGiftCards';

```
sqlite> SELECT * FROM products WHERE category = 'VGiftCards';
54|$5 Virtual Gift Card|VGiftCards|5.0|10
55|$25 Virtual Gift Card|VGiftCards|25.0|10
sqlite>
```

- **Physical Gift Cards:**

- INSERT INTO products (productName, category, price, quantity) VALUES ('\$50 Physical Gift Card', 'PGiftCards', 50.0, 10);
- INSERT INTO products (productName, category, price, quantity) VALUES ('\$100 Physical Gift Card', 'PGiftCards', 100.0, 10);

```
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('$50 Physical Gift Card', 'PGiftCards', 50.0, 10);
sqlite> INSERT INTO products (productName, category, price, quantity) VALUES ('$100 Physical Gift Card', 'PGiftCards', 100.0, 10);
sqlite> SELECT * FROM products WHERE category = 'PGiftCards';
```

- Now, verify:
SELECT * FROM products WHERE category = 'PGiftCards';

```
sqlite> SELECT * FROM products WHERE category = 'PGiftCards';
56|$50 Physical Gift Card|PGiftCards|50.0|10
57|$100 Physical Gift Card|PGiftCards|100.0|10 █
sqlite>
```

2. **All Registered Users Table:**

Create the table for registered users.

```
CREATE TABLE registered_users (id INTEGER PRIMARY KEY AUTOINCREMENT, email TEXT NOT NULL UNIQUE, password TEXT NOT NULL, isActive INTEGER NOT NULL, environment TEXT NOT NULL);
```

```
sqlite> CREATE TABLE registered_users (id INTEGER PRIMARY KEY AUTOINCREMENT, email TEXT NOT NULL UNIQUE, password TEXT NOT NULL, isActive INTEGER NOT NULL, environment TEXT NOT NULL);
sqlite>
sqlite> _
```

Insert values into the above created table with the query.

```
INSERT INTO registered_users (email, password, isActive, environment) VALUES
('hf.2024qab2@gmail.com', 'password123', 1, 'production'), ('akh.2024qab2@gmail.com',
'securepass', 1, 'testing'), ('ril.2024qab2@gmail.com', 'anotherpass', 0, 'production'),
('am.2024qab2@gmail.com', 'secretpass', 0, 'testing'), ('hm.2024qab2@gmail.com',
'confidentialpass', 1, 'peoduction');
```

Now, let's verify:

```
SELECT * FROM registered_users;
```

```
sqlite> SELECT * FROM registered_users;
1|hf.2024qab2@gmail.com|password123|1|production
2|akh.2024qab2@gmail.com|securepass|1|testing
3|ril.2024qab2@gmail.com|anotherpass|0|production
4|am.2024qab2@gmail.com|secretpass|0|testing
5|hm.2024qab2@gmail.com|confidentialpass|1|peoduction
sqlite>
```