

Task 2: Select, Where, Between, AND, LIKE

Inserting Records into each Table:

Customers Table:

```
CREATE TABLE Customers (  
    customer_id INT AUTO_INCREMENT PRIMARY KEY,  
    first_name VARCHAR(50) NOT NULL,  
    last_name VARCHAR(50) NOT NULL,  
    DOB DATE NOT NULL,  
    email VARCHAR(100) UNIQUE NOT NULL,  
    phone_number VARCHAR(15) UNIQUE NOT NULL,  
    address TEXT NOT NULL  
);
```

Accounts Table:

```
CREATE TABLE Accounts (  
    account_id INT AUTO_INCREMENT PRIMARY KEY,  
    customer_id INT NOT NULL,  
    account_type ENUM('savings', 'current', 'zero_balance') NOT NULL,  
    balance DECIMAL(15,2) DEFAULT 0.00,  
    FOREIGN KEY (customer_id) REFERENCES Customers(customer_id) ON DELETE CASCADE  
);
```

Transactions Table:

```
CREATE TABLE Transactions (  
    transaction_id INT AUTO_INCREMENT PRIMARY KEY,  
    account_id INT NOT NULL,  
    transaction_type ENUM('deposit', 'withdrawal', 'transfer') NOT NULL,  
    amount DECIMAL(15,2) NOT NULL CHECK (amount > 0),  
    transaction_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,  
    FOREIGN KEY (account_id) REFERENCES Accounts(account_id) ON DELETE CASCADE  
);
```

SQL QUERIES:

- 1) SQL query to retrieve the name, account type and email of all customers.

```
SELECT c.first_name, c.last_name, a.account_type, c.email
FROM Customers c
JOIN Accounts a ON c.customer_id = a.customer_id;
```

	first_name	last_name	account_type	email
▶	John	Doe	savings	john.doe@example.com
	Alice	Smith	current	alice.smith@example.com
	Bob	Johnson	savings	bob.johnson@example.com
	Charlie	Brown	current	charlie.brown@example.com
	David	Williams	savings	david.williams@example.com
	Eve	Miller	current	eve.miller@example.com
	Frank	Wilson	savings	frank.wilson@example.com
	Grace	Moore	current	grace.moore@example.com
	Hannah	Taylor	savings	hannah.taylor@example.com
	Isaac	Anderson	current	isaac.anderson@example.com

- 2) SQL query to list all transaction corresponding customer.

```
SELECT c.first_name, c.last_name, t.transaction_type, t.amount, t.transaction_date
FROM Transactions t
JOIN Accounts a ON t.account_id = a.account_id
JOIN Customers c ON a.customer_id = c.customer_id;
```

	first_name	last_name	transaction_type	amount	transaction_date
▶	John	Doe	deposit	500.00	2024-01-15 00:00:00
	Alice	Smith	withdrawal	700.00	2024-02-10 00:00:00
	Bob	Johnson	deposit	300.00	2024-03-05 00:00:00
	Charlie	Brown	withdrawal	1000.00	2024-04-20 00:00:00
	David	Williams	deposit	150.00	2024-05-30 00:00:00
	Eve	Miller	withdrawal	400.00	2024-06-12 00:00:00
	Frank	Wilson	deposit	600.00	2024-07-18 00:00:00
	Grace	Moore	withdrawal	500.00	2024-08-22 00:00:00
	Hannah	Taylor	deposit	350.00	2024-09-25 00:00:00
	Isaac	Anderson	withdrawal	200.00	2024-10-28 00:00:00

- 3) SQL query to increase the balance of a specific account by a certain amount.

```
UPDATE Accounts
SET balance = balance + 500
WHERE account_id = 101;
```

Action Output				
#	Time	Action	Message	Duration / Fetch
6	15:04:11	SELECT c.first_name, c.last_name, a.account_type, c.email FROM Customers c J...	10 row(s) returned	0.016 sec / 0.000 sec
7	15:06:28	SELECT c.first_name, c.last_name, t.transaction_type, t.amount, t.transaction_date...	10 row(s) returned	0.000 sec / 0.000 sec
8	15:08:22	UPDATE Accounts SET balance = balance + 500 WHERE account_id = 101	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.016 sec

4) SQL query to Combine first and last names of customers as a full_name

```
SELECT CONCAT(first_name, ' ', last_name) AS full_name FROM Customers;
```

full_name
John Doe
Alice Smith
Bob Johnson
Charlie Brown
David Williams
Eve Miller
Frank Wilson
Grace Moore
Hannah Taylor

5) SQL query to remove accounts with a balance of zero where the account type is savings.

```
SET SQL_SAFE_UPDATES = 0;  
DELETE FROM Accounts  
WHERE balance = 0 AND account_type = 'savings';
```

#	Time	Action	Message	Duration / Fetch
10	15:15:25	DELETE FROM Accounts WHERE balance = 0 AND account_type = 'savings'	Error Code: 1175. You are using safe update mode and you tried to update a table ...	0.000 sec
11	15:16:37	SET SQL_SAFE_UPDATES = 0	0 row(s) affected	0.000 sec
12	15:16:42	DELETE FROM Accounts WHERE balance = 0 AND account_type = 'savings'	1 row(s) affected	0.000 sec

6) SQL query to Find customers living in a specific city

```
SELECT * FROM Customers WHERE address = 'New York';
```

customer_id	first_name	last_name	DOB	email	phone_number	address
1	John	Doe	1985-07-10	john.doe@example.com	9876543210	New York

7) SQL query to Get the account balance for a specific account.

```
SELECT balance FROM Accounts WHERE account_id = 101;
```

balance
2000.00

8) SQL query to List all current accounts with a balance greater than \$1,000

```
SELECT * FROM Accounts WHERE account_type = 'current' AND balance > 1000;
```

account_id	customer_id	account_type	balance
102	2	current	3000.00
104	4	current	8000.00
106	6	current	1200.00
108	8	current	6000.00
NULL	NULL	NULL	NULL

9) SQL query to Retrieve all transactions for a specific account

```
SELECT * FROM Transactions WHERE account_id = 102;
```

	transaction_id	account_id	transaction_type	amount	transaction_date
▶	2	102	withdrawal	700.00	2024-02-10 00:00:00
*	NULL	NULL	NULL	NULL	NULL

10) SQL query to Calculate the interest accrued on savings accounts based on a given interest rate.

```
SELECT account_id, balance, balance * 0.04 AS interest  
FROM Accounts WHERE account_type = 'savings';
```

	account_id	balance	interest
▶	101	2000.00	80.0000
	103	500.00	20.0000
	107	2500.00	100.0000
	109	200.00	8.0000

11) SQL query to Identify accounts where the balance is less than a specified overdraft limit.

```
SELECT * FROM Accounts WHERE balance < 500;
```

	account_id	customer_id	account_type	balance
▶	109	9	savings	200.00
*	NULL	NULL	NULL	NULL

12) SQL query to Find customers not living in a specific city.

```
SELECT * FROM Customers WHERE address <> 'New York';
```

	customer_id	first_name	last_name	DOB	email	phone_number	address
▶	2	Alice	Smith	1990-03-15	alice.smith@example.com	9823456789	Los Angeles
	3	Bob	Johnson	1988-11-20	bob.johnson@example.com	9845671234	Chicago
	4	Charlie	Brown	1992-06-25	charlie.brown@example.com	9876543123	Houston
	5	David	Williams	1995-09-18	david.williams@example.com	9887654321	Phoenix
	6	Eve	Miller	1993-12-01	eve.miller@example.com	9812345678	Dallas
	7	Frank	Wilson	1997-02-17	frank.wilson@example.com	9898765432	San Diego
	8	Grace	Moore	1989-08-30	grace.moore@example.com	9854321098	Austin
	9	Hannah	Taylor	1991-05-22	hannah.taylor@example.com	9821098765	San Francisco
	10	Isaac	Anderson	1994-04-11	isaac.anderson@example.com	9872105432	Seattle