```
create table customer(
   -> customer_id int primary key auto_increment
   -> first_name varchar(50)
   -> last_name varchar(50),
   -> date_of_birth date not null,
   -> email varchar(100),
   -> phone_no int,
   -> address varchar,
   -> );

CREATE TABLE Accounts (
   ->    account_id INT PRIMARY KEY AUTO_INCREMENT,
   ->    customer_id INT NOT NULL,
   ->    account_type ENUM('savings', 'current', 'zero_balance') NOT NULL,
   ->    balance DECIMAL(10,2) NOT NULL DEFAULT 0.00,
   ->    CONSTRAINT fk_customer FOREIGN KEY (customer_id)
   ->        REFERENCES Customers(customer_id)
   ->        ON DELETE CASCADE
   ->        ON UPDATE CASCADE
   -> );
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE TABLE Transactions (
   ->    transaction_id INT PRIMARY KEY AUTO_INCREMENT,
   ->    account_id INT NOT NULL,
   ->    transaction_type ENUM('deposit', 'withdrawal', 'transfer') NOT NULL,
   ->    amount DECIMAL(10,2) NOT NULL DEFAULT 0.00,
   ->    transaction_date DATE NOT NULL,
   ->    FOREIGN KEY (account_id) REFERENCES Accounts(account_id)
   ->    ON DELETE CASCADE
   ->    ON UPDATE CASCADE
```

```
    -> );

INSERT INTO Customers (first_name, last_name, DOB, email, phone_number) VALUES
    -> ('Kiru', 'Ravi', '1998-05-12', 'kiru.ravi@example.com', '9876543210'),
    -> ('Kaviya', 'Mohan', '1999-08-25', 'kaviya.mohan@example.com', '9876543211'),
    -> ('Narmatha', 'Suresh', '2000-01-30', 'narmatha.suresh@example.com', '9876543212'),
    -> ('Sathish', 'Kumar', '1997-07-15', 'sathish.kumar@example.com', '9876543213'),
    -> ('Jeeva', 'Raj', '1996-04-20', 'jeeva.raj@example.com', '9876543214'),
    -> ('Jitesh', 'Anand', '2001-11-10', 'jitesh.anand@example.com', '9876543215'),
    -> ('Arun', 'Kumar', '1995-02-18', 'arun.kumar@example.com', '9876543216'),
    -> ('Priya', 'Devi', '1998-09-05', 'priya.devi@example.com', '9876543217'),
    -> ('Mohan', 'Vel', '1994-12-23', 'mohan.vel@example.com', '9876543218'),
    -> ('Divya', 'Shree', '2002-06-14', 'divya.shree@example.com', '9876543219');
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> INSERT INTO Accounts (customer_id, account_type, balance) VALUES
    -> (1, 'savings', 5000.00),
    -> (2, 'current', 12000.50),
    -> (3, 'zero_balance', 0.00),
    -> (4, 'savings', 2500.75),
    -> (5, 'current', 8000.25),
    -> (6, 'savings', 6000.00),
    -> (7, 'zero_balance', 0.00),
    -> (8, 'current', 15000.00),
    -> (9, 'savings', 7200.40),
    -> (10, 'zero_balance', 0.00);
Query OK, 10 rows affected (0.01 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> INSERT INTO Transactions (account_id, transaction_type, amount, transaction_date) VALUES
```

```
    -> (2, 'deposit', 2500.00, '2025-03-01'),
    -> (5, 'withdrawal', 700.00, '2025-03-02'),
    -> (3, 'deposit', 3200.75, '2025-03-03'),
    -> (7, 'transfer', 1800.50, '2025-03-04'),
    -> (1, 'withdrawal', 900.00, '2025-03-05'),
    -> (4, 'deposit', 5000.00, '2025-03-06'),
    -> (6, 'transfer', 1100.25, '2025-03-07'),
    -> (9, 'withdrawal', 400.00, '2025-03-08'),
    -> (8, 'deposit', 2000.40, '2025-03-09'),
    -> (10, 'transfer', 2300.00, '2025-03-10');
```

Task2

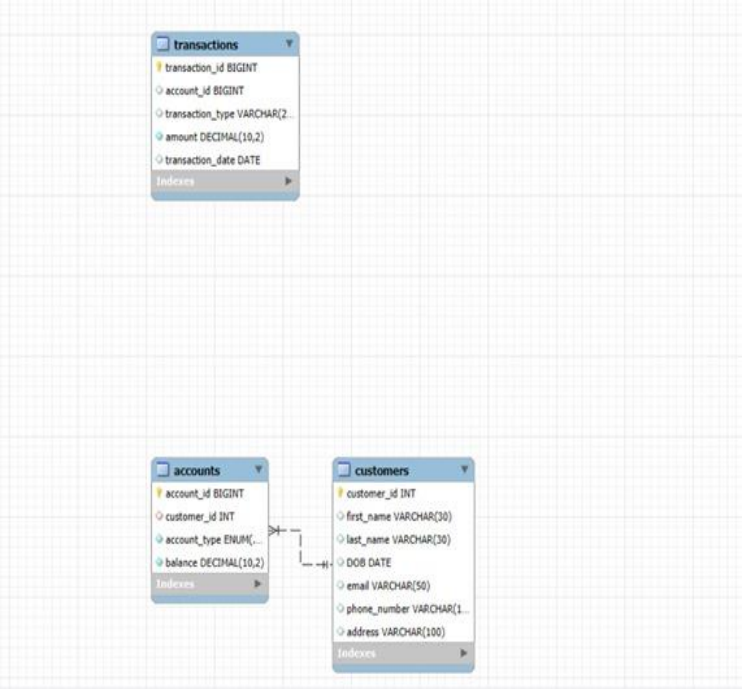
1.Write a SQL query to retrieve the name, account type and email of all customers.

```
mysql> SELECT first_name, last_name, account_type, email
    -> FROM Customers
    -> JOIN Accounts ON Customers.customer_id = Accounts.customer_id;
+------------+-----------+--------------+----------------------------+
| first_name | last_name | account_type | email                      |
+------------+-----------+--------------+----------------------------+
| Kiru       | Ravi      | savings      | kiru.ravi@example.com      |
| Kaviya     | Mohan     | current      | kaviya.mohan@example.com   |
| Narmatha   | Suresh    | zero_balance | narmatha.suresh@example.com |
| Sathish    | Kumar     | savings      | sathish.kumar@example.com  |
| Jeeva      | Raj       | current      | jeeva.raj@example.com      |
| Jitesh     | Anand     | savings      | jitesh.anand@example.com   |
| Arun       | Kumar     | zero_balance | arun.kumar@example.com     |
| Priya      | Devi      | current      | priya.devi@example.com     |
| Mohan      | Vel       | savings      | mohan.vel@example.com      |
| Divya      | Shree     | zero_balance | divya.shree@example.com    |
+------------+-----------+--------------+----------------------------+
10 rows in set (0.00 sec)
```

Write a SQL query to list all transaction corresponding customer.

```
> select*from transactions
   -> where account_id=4;
+----------------+------------+------------------+---------+------------------+
| transaction_id | account_id | transaction_type | amount  | transaction_date |
+----------------+------------+------------------+---------+------------------+
|              6 |          4 | deposit          | 5000.00 | 2025-03-06       |
+----------------+------------+------------------+---------+------------------+
```

4. Create an ERD (Entity Relationship Diagram) for the database.



5. Create appropriate Primary Key and Foreign Key constraints for referential integrity.transaction_id INT PRIMARY KEY,

FOREIGN KEY (account_id) REFERENCES accounts(account_id)

account_id INT PRIMARY KEY,

customer_id INT PRIMARY KEY,

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

```
UPDATE Accounts
SET balance = balance + 5000  -- Replace 5000 with the desired increment amount
WHERE account_id = 3;  -- Replace 3 with the specific account ID
```

4. Write a 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       |
+-----------------+
| Kiru Ravi       |
| Kaviya Mohan    |
| Narmatha Suresh |
| Sathish Kumar   |
| Jeeva Raj       |
| Jitesh Anand    |
| Arun Kumar      |
| Priya Devi      |
| Mohan Vel       |
| Divya Shree     |
+-----------------+
```

054 (42S22): Unknown column 'savings' in 'where clause'

5. Write a SQL query to remove accounts with a balance of zero where the account

type is savings.

mysql> SELECT * FROM Accounts WHERE balance = 0.00;

```
+------------+-------------+--------------+---------+
| account_id | customer_id | account_type | balance |
+------------+-------------+--------------+---------+
|          3 |           3 | zero_balance |    0.00 |
|          7 |           7 | zero_balance |    0.00 |
|         10 |          10 | zero_balance |    0.00 |
+------------+-------------+--------------+---------+
```

6. Write a SQL query to Find customers living in a specific city.

```
select * from customers
   -> where city ='chennai';
```

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

```
select *from accounts
   -> where balance=5000;
+------------+-------------+--------------+---------+
| account_id | customer_id | account_type | balance |
+------------+-------------+--------------+---------+
|          1 |           1 | savings      | 5000.00 |
+------------+-------------+--------------+---------+
```

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

```
SELECT account_id, customer_id, account_type, balance
FROM accounts
WHERE account_type = 'Current' AND balance > 1000;
```

9. Write a SQL query to Retrieve all transactions for a specific account.

```
SELECT *
FROM transactions
WHERE account_id = 'savings_account';
```

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

```
select balance,balance*0.05 as interest
   -> from accounts where account_type='savings';
+---------+----------+
| balance | interest |
+---------+----------+
| 5000.00 | 250.0000 |
| 2500.75 | 125.0375 |
```

| 6000.00 | 300.0000 |

| 7200.40 | 360.0200 |

+---------+----------+

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

```
select account_id from accounts
    -> where balance<2000 and account_type='current';
```

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

```
SELECT * FROM customers
WHERE LOWER(address) NOT LIKE '%chennai%';
```