

BANKING SYSTEM ASSIGNMENT

TASK1: Database Design:

1. Create the database named "HMBank"

```
CREATE DATABASE HMBank;
```

```
USE HMBank;
```

2. Define the schema for the Customers, Accounts, and Transactions tables based on the provided schema.

4. Create appropriate Primary Key and Foreign Key constraints for referential integrity.

5. Write SQL scripts to create the mentioned tables with appropriate data types, constraints, and relationships.

```
CREATE TABLE Customers (  
    customer_id INT auto_increment,  
    first_name VARCHAR (20) NOT NULL,  
    last_name VARCHAR (20) NOT NULL,  
    DOB DATE NOT NULL,  
    email VARCHAR (50) NOT NULL UNIQUE,  
    phone_number INT (10) NOT NULL UNIQUE,  
    address VARCHAR (200),  
    CONSTRAINT Customers_customer_id_PK PRIMARY KEY(customer_id)  
);
```

```
CREATE TABLE Accounts (  
    account_id INT auto_increment,  
    customer_id INT,  
    account_type VARCHAR(50),  
    CHECK (account_type IN('Savings','Current','Zero_balance')),  
    balance DECIMAL (20,2),  
    CONSTRAINT Accounts_account_id_PK PRIMARY KEY(account_id),  
    FOREIGN KEY (customer_id) REFERENCES Customers(customer_id)  
);
```

```
CREATE TABLE Transactions(  
    transaction_id INT auto_increment,  
    account_id INT,  
    transaction_type varchar(50),  
    CHECK (transaction_type IN('deposit','withdrawal','transfer')),  
    amount DECIMAL (20,2),  
    transaction_date DATE NOT NULL,  
    CONSTRAINT Transactions_transaction_id_PK PRIMARY KEY(transaction_id),  
    FOREIGN KEY (account_id) REFERENCES Accounts(account_id)
```

);

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

