

## LAB 13 DBMS Section A

IMT2023103

### Requirements:

Name: Instant Transfer Fund

Actor: Customer

Action: Transfers funds between 2 accounts in the same bank account(assuming instant transfer)

Name: Schedule Transfers

Actor: Customer

Action: Schedules the transaction to a later date by logging the details to a log table. The program checks pending transactions at 12:00 everyday

Name: Provide admin view of all internal Transfers

Actor: Bank Admin

Action: Provides a view of all transfers, can filter by date,user,amount or status

### BanktransferDB\_create:

```
CREATE TABLE Users(  
  user_id INT PRIMARY KEY,  
  name VARCHAR(100) NOT NULL,  
  email VARCHAR(100) UNIQUE,  
  user_type ENUM('customer','admin')  
);  
  
CREATE TABLE Accounts(  
  account_number INT PRIMARY KEY,  
  user_id INT NOT NULL,  
  account_type ENUM('savings','checking'),  
  balance INT DEFAULT 0  
);  
  
CREATE TABLE Transfers(  
  transfer_id INT PRIMARY KEY,  
  user_id INT NOT NULL,  
  source_account_id INT NOT NULL,  
  destination_account_id INT NOT NULL,
```

```

amount INT DEFAULT 0,
completed_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
CREATE TABLE Scheduled_Transfers(
schedule_id INT PRIMARY KEY,
user_id INT NOT NULL,
source_account_id INT NOT NULL,
destination_account_id INT NOT NULL,
amount INT DEFAULT 0,
scheduled_for TIMESTAMP NOT NULL,
status ENUM('scheduled', 'completed', 'cancelled'),
created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

```

## BanktransferDB\_alter:

```

ALTER TABLE Accounts
ADD CONSTRAINT fk_acc_user_id FOREIGN KEY(user_id) REFERENCES Users(user_id);

ALTER TABLE Transfers
ADD CONSTRAINT fk_user_id FOREIGN KEY(user_id) REFERENCES Users(user_id),
ADD CONSTRAINT fk_source_id FOREIGN KEY(source_account_id) REFERENCES Accounts(account_number),
ADD CONSTRAINT fk_destination_id FOREIGN KEY(destination_account_id) REFERENCES
Accounts(account_number);

ALTER TABLE Scheduled_Transfers
ADD CONSTRAINT fk_sched_user_id FOREIGN KEY(user_id) REFERENCES Users(user_id),
ADD CONSTRAINT fk_sched_source_id FOREIGN KEY(source_account_id) REFERENCES Accounts(account_number),
ADD CONSTRAINT fk_sched_destination_id FOREIGN KEY(destination_account_id) REFERENCES
Accounts(account_number);

```