

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);
```