

**National University of Computer and Emerging Sciences**



# In Lab Exercise 6

“Stored Procedures”

Database Systems

Spring 2022

Department of Computer Science

FAST-NU, Lahore, Pakistan

## Exercise

For this exercise use the following schema, the script to create this schema and populate data is given in ATM.SQL file

|   | userTypeID | name   |  |  |  |
|---|------------|--------|--|--|--|
| 1 | 1          | Silver |  |  |  |
| 2 | 2          | Gold   |  |  |  |
| 3 | 3          | Bronze |  |  |  |
| 4 | 4          | Common |  |  |  |

|   | userId | name   | userType | phoneNum    | city    |
|---|--------|--------|----------|-------------|---------|
| 1 | 1      | Ali    | 2        | 03036067000 | Narowal |
| 2 | 2      | Ahmed  | 1        | 03036047000 | Lahore  |
| 3 | 3      | Aqeel  | 3        | 03036063000 | Karachi |
| 4 | 4      | Usman  | 4        | 03036062000 | Sialkot |
| 5 | 5      | Hafeez | 2        | 03036061000 | Lahore  |

|   | userId | cardNum       |  |  |  |
|---|--------|---------------|--|--|--|
| 1 | 1      | 1324327436569 |  |  |  |
| 2 | 2      | 2324325423336 |  |  |  |
| 3 | 3      | 2324325436566 |  |  |  |
| 4 | 1      | 2343243253436 |  |  |  |

|   | cardNum       | cardTypeID | PIN  | expireDate | balance  |
|---|---------------|------------|------|------------|----------|
| 1 | 1324327436569 | 3          | 1770 | 2022-07-01 | 43025.31 |
| 2 | 2324325423336 | 3          | 0234 | 2020-03-02 | 14425.62 |
| 3 | 2324325436566 | 1          | 1234 | 2019-02-06 | 34325.52 |
| 4 | 2324325666456 | 2          | 1200 | 2021-02-05 | 24325.3  |
| 5 | 2343243253436 | 2          | 0034 | 2020-09-02 | 34025.12 |

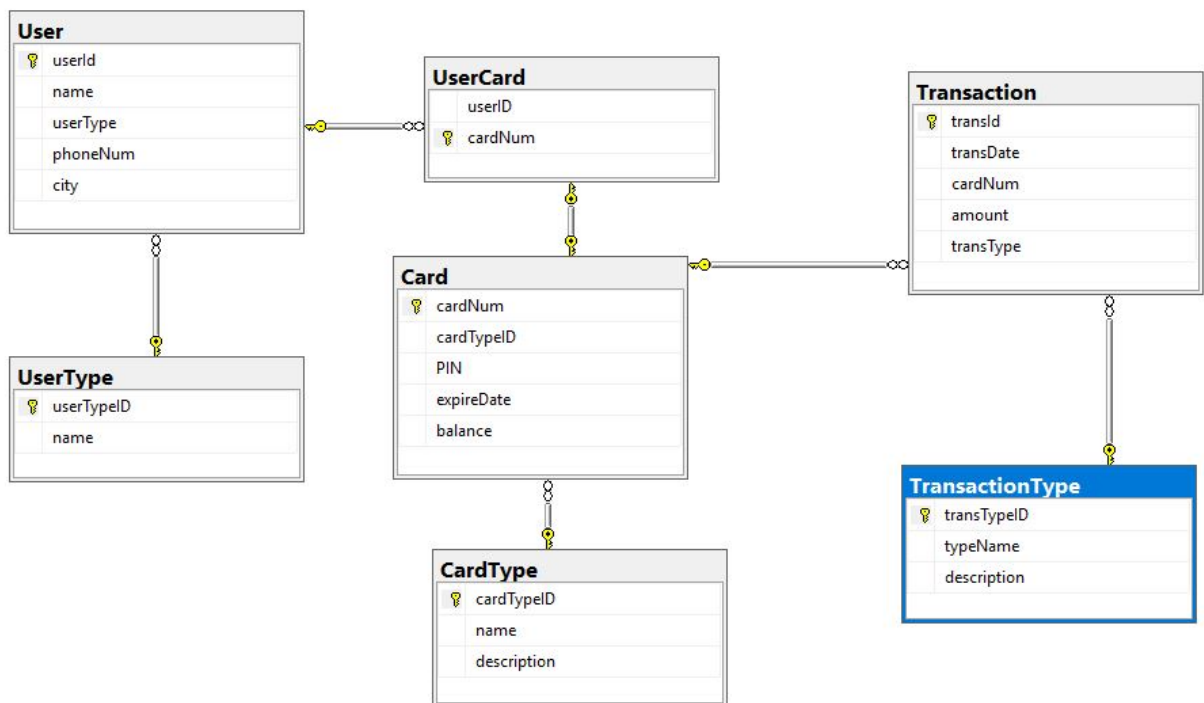
|   | cardTypeID | name   | description          |
|---|------------|--------|----------------------|
| 1 | 1          | Debit  | Spend Now, Pay Now   |
| 2 | 2          | Credit | Spend Now, Pay later |
| 3 | 3          | Gift   | Enjoy                |

|   | transId | transDate  | cardNum       | amount | transType |
|---|---------|------------|---------------|--------|-----------|
| 1 | 1       | 2017-02-02 | 1324327436569 | 500    | 1         |
| 2 | 2       | 2018-02-03 | 2343243253436 | 3000   | 3         |
| 3 | 3       | 2017-05-06 | 2324325436566 | 2500   | 2         |
| 4 | 4       | 2016-09-09 | 2324325436566 | 2000   | 1         |
| 5 | 5       | 2015-02-10 | 2324325423336 | 6000   | 4         |

|   | transTypeID | typeName   | description |
|---|-------------|------------|-------------|
| 1 | 1           | Withdraw   | NULL        |
| 2 | 2           | Deposit    | NULL        |
| 3 | 3           | Schedul... | NULL        |
| 4 | 4           | Failed     | NULL        |



## Write script to execute **PROCEDURE** for each question.

- 1- Create a procedure to display all the user's details.
- 2- Create a procedure that takes user name and display his details.
- 3- Create a procedure that takes card number and display owner's **name, phone number and city**.
- 4- Create a procedure that returns minimum balance in an output parameter.
- 5- Create a procedure that takes user name, id and returns no. of cards of that user in an output parameter.
- 6- Create a procedure Login that takes card number, PIN and returns the status in an output parameter. @status =1 if card number and PIN is valid and @status=0 otherwise.  
  
(Hint: IF/ELSE).
- 7- Create a procedure to update the PIN. The procedure takes Card Number, old PIN and new Valid PIN (Length 4) and print 'Updated PIN' if PIN gets updated or 'Error' otherwise.  
  
(Google it if you don't know how to compare the Length).
- 8- Create a procedure **Withdraw** using Login Procedure (Question#6), the procedure will take Card Number, PIN, amount for transaction. Now insert detail of the transaction in **Transaction Table** if the transaction is successful with **TransType =1**(successful Transaction) and next **transID (calculate the max transID and increment transID, then insert in table)**. If the transaction fails insert **TransType=4** (Failed Transaction). Update the balance against the card number accordingly.