**National University of Computer and Emerging Sciences**



# In Lab Exercise 9

"Stored Procedures"

## Database Systems
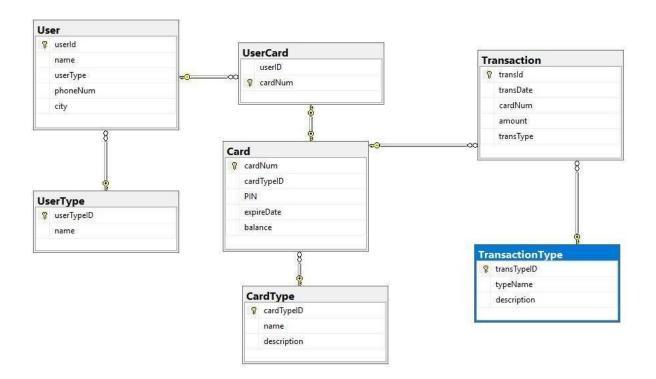
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Department of Computer Science

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# 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 |

**User**
- userId
- name
- userType
- phoneNum
- city

**UserCard**
- userID
- cardNum

**Transaction**
- transId
- transDate
- cardNum
- amount
- transType

**Card**
- cardNum
- cardTypeID
- PIN
- expireDate
- balance

**UserType**
- userTypeID
- name

**CardType**
- cardTypeID
- name
- description

**TransactionType**
- transTypeID
- typeName
- description

# 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 CardNumber, 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.