National University of Computer and Emerging Sciences

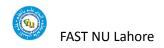# In Lab 5

"Nested Queries"

Database Systems Lab

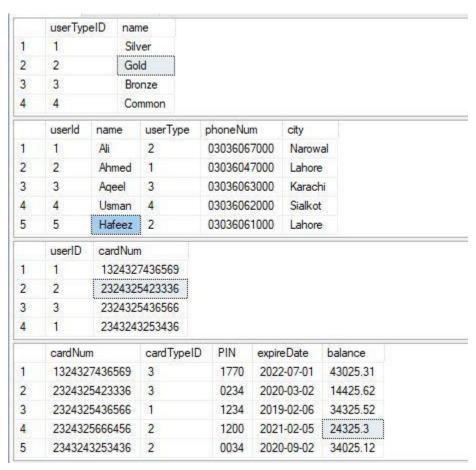| Course Instructor	
Lab Instructor (s)	
Section	
Semester	Sprig 2022

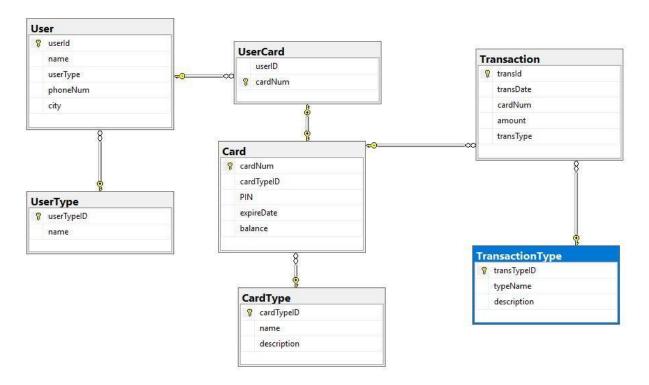# Department of Computer Science
FAST-NU, Lahore, Pakistan

Exercise:

For this exercise use the following schema, the script to create this schema and populate data is given in ATM.SQL file.
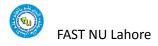
	userTypeID	name
1	1	Silver
2	2	Gold
3	3	Bronze
4	4	Common

	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

Task-I

1- List the card numbers of those cards that are not used for transaction. (Hint: IN)
2- List the name of the user who has maximum balance in his/her card (One person can have more than 1 card, check cards individually for max balance).
3- List the **user** names with their **UserType** name without using join.
4- List all the **users** made **failed transactions**.

5- List the **user** who has made maximum **transactions**.
6- List the **userTypes** of users who have **credit** cards, in the **descending** order according to the *count of cards*.
7- List the cardTypes along with the count of users. (In descending order according to count of users).
8- Give the **user** who has second maximum **balance**. (You may use Query 2).
9- List the **UserTypes** whose users have not made **withdrawal** transactions.