

## SQL QUESTION PAPER

**Table User**

USERID	FIRSTNAME	LASTNAME	USERNAME	PASSWORDHASH	EMAIL	PHONENUMBER	ADDRESS
1	Alice	Smith	alice123	hash1	alice@example.com	1234567890	123 Main St
2	Bob	Johnson	bobj	hash2	bob@example.com	9876543210	456 Elm St
3	Carol	White	carolw	hash3	carol@example.com	5551112233	789 Oak St
4	David	Brown	davidb	hash4	david@example.com	4442221100	321 Pine St
5	Eve	Davis	eved	hash5	eve@example.com	6667778888	654 Cedar St

**Table Account**

ACCOUNTID	USERID	ACCOUNTNUMBER	ACCOUNTTYPE	BALANCE	CURRENCY	OPENDATE
1	1	ACC10001	Savings	5000	USD	1-1-2022
2	2	ACC10002	Checking	1500	USD	3-15-2022
3	3	ACC10003	Savings	7500	USD	6-20-2022
4	4	ACC10004	Checking	300	USD	11-30-2022
5	5	ACC10005	Savings	9200	USD	2-10-2023

**Table Bank Transaction**

TRANSACTIONID	ACCOUNTID	TRANSACTIONTYPE	AMOUNT	TRANSACTIONDATE	DESCRIPTION	TARGETACCOUNTID
1	1	Deposit	1000	1-10-2023	Initial deposit	
2	2	Withdrawal	200	2-15-2023	ATM withdrawal	
3	3	Transfer	500	3-22-2023	Transfer to friend	4
4	4	Deposit	700	4-5-2023	Salary	
5	5	Transfer	300	4-12-2023	Gift transfer	1

**Table Beneficiary**

BENEFICIARYID	USERID	NAME	ACCOUNTNUMBER	BANKNAME	BRANCHNAME	SWIFTCODE
1	1	John Carter	ACC20001	Bank of America	Downtown	BOFAUS3N
2	2	Lucy Hale	ACC20002	Chase Bank	Midtown	CHASUS33
3	3	Tom Hardy	ACC20003	Wells Fargo	Uptown	WFBIUS6S
4	4	Emma Stone	ACC20004	Citi Bank	Westside	CITIUS33
5	5	Mark Ruffalo	ACC20005	HSBC	Eastside	MRMDUS33

**Table Card**

CARDID	ACCOUNTID	CARDNUMBER	CARDHOLDERNAME	EXPIRYDATE	CVV
1	1	4111111111111111	Alice Smith	5-1-2026	123
2	2	4111111111111122	Bob Johnson	12-1-2025	234
3	3	4111111111111133	Carol White	7-1-2027	345
4	4	4111111111111144	David Brown	11-1-2024	456
5	5	4111111111111155	Eve Davis	1-1-2026	567

**Table Loan**

LOANID	USERID	ACCOUNTID	LOANAMOUNT	INTERESTRATE	INSTALLMENTAMOUNT	LOANSTATUS
1	1	1	10000	5.5	500	Approved
2	2	2	5000	6	250	Pending
3	3	3	15000	4.5	600	Approved
4	4	4	2000	7	100	Rejected
5	5	5	12000	5	550	Approved

**Table Notification**

NOTIFICATIONID	USERID	MESSAGE	NOTIFICATIONDATE	ISREAD
1	1	Your account balance is low.	5-1-2023	N
2	2	Loan application status: Pending.	5-3-2023	Y
3	3	Card ending 1133 is expiring soon.	5-5-2023	N
4	4	New beneficiary added.	5-6-2023	Y
5	5	Transfer of \$300 successful.	5-7-2023	N

1. Update loan status to 'Overdue' for loans where the installment amount is above 500 and the user has less than 1000 balance in the linked account.
2. Delete all loans that are rejected and older than 1 year (assume loan record date is the same as account Open Date for simplicity).
3. Show usernames in uppercase along with masked emails and the domain (example: xxxxx@example.com).
4. List account IDs and their total transferred amount (Transaction Type = 'Transfer') if the total transfer is more than 1000.
5. List all transactions that were made to accounts owned by user with username 'alice123'.
6. List all users with their most recent notification (based on date)
7. Create a report that shows all users who:

Have at least 2 accounts

Have made more than 3 transactions

Have at least one active card (i.e., not expired)

Have taken a loan greater than the average loan amount

For each such user, display:

Full name (concatenated)

Total number of accounts

Total balance across all accounts

Total number of transactions

Whether they are a "High Value Customer" (total balance > 1000 — use CASE)

Date of their most recent transaction.

8. Rank the accounts by balance within each account type (e.g., Savings, Checking).

For each account, display:

- Account Type
- Account Number
- Balance
- RANK based on balance within each account type.
- DENSE\_RANK based on balance within each account type.

Show only the top 3 ranked accounts (based on rank or dense rank).