Database Management Systems

Year 2, Semester 1

Lab Sheet 05

Consider the schema for the Bank example you have used in the previous two lab sheets as follows:

Bank (bCode, bankName, registration)

Branch (bCode, branchNo, branchName, address)

Foreign key (bCode) references Bank (bCode)

AccountType (accCode, accName, description, intRate, maxCheques, type)

Account (accNo, balance, bCode, branchNo, accCode)

Foreign key (bCode,branchNo) references Branch(bCode,branchNo)

Foreign key (accCode) references AccountType(accCode)

Customer (custNo, custName, address, phone, NIC, PIN)

Belongs_to (custNo, accNo)

Foreign key (custNo) references Customer (custNo)

Foreign key (accNo) references Account (accNo)

Transaction (tid, amount , description, executedBy, date)

Has (tid, accountNo, type)

Foreign key (accNo) references Account (accNo)

Foreign key (tid) references Transaction (tid)

Answer the following questions based on the above schema. Use the tables you have created in Lab Sheet 03 to check the correctness of your answers.

1. Create a view to show the customer name, branch name, branch address, and balance of top 3 customers of Sampath bank. The top 3 customers are the customers with the 3 highest balances in the Bank.

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2. Create a view which shows the total number of deposits (i.e 'Credits') made by customers in different banks.

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3. Create a function which returns the total of account balances in a given branch in a given bank.

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4. Create a function which returns the total of withdrawals(i.e 'Debit') made in a given year by a given customer using a given method (ex: 'Teller').

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5. Create a procedure to update a given account by a given amount of money and given the operation (ex: 'Credit' or 'Debit).

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6. Create a procedure which is capable of transferring a given amount of money between two given accounts.

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7. Assuming that each account should have a minimum balance of Rs. 500, create a trigger to ensure that each withdrawal would not result in a balance below the above amount.

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8. Assuming that the daily withdrawal limit via 'ATM' is 80000, create a trigger to ensure that no more than Rs. 80,000 is withdrawn from an account.

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9. Create a trigger to update the balance column in the account table whenever a transaction occurs based on the transaction type (ex: If certain account is credited with some amount of money, add that amount to the account table).
Note: Use the procedure you have used in question 5 to do this.

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