DBMS Lab Assignment 3

PROBLEM STATEMENTS

Consider the following relational schema for a banking database application:

★ Customer (**Cid, Cname**);
  ○ Cid will always start with **'C'**.
★ Branch (**Bcode, Bname**);
  ○ Bcode will always start with **'B'**.
★ Account (**Ano, Atype, Balance, Cid, Bcode**);
  ○ Ano will always start with **'A'**.
  ○ An account can be a savings account or a current account. Check Atype in **'S'** or **'C'.** A customer can have both types of accounts.
★ Transaction (**Tid, Ano, Ttype, Tdate, Tamount**);
  ○ Tid will always start with **'T'**.
  ○ Ttype can be **'D'** – Deposit, **'W'** – Withdrawal

Note:

★ *Primary Key* is underlined.
★ *Foreign Key* as implied.
★ Decide suitable data types for each column.

Questions

1. Develop DDL to implement the above schema specifying an appropriate data type for each attribute enforcing primary key, check constraints and foreign key constraints.
2. Populate the database with a rich data set as follows:

Customer		Branch	
Cid	Cname	Bcode	Bname
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C0001	Ramesh	B001	Kolaghat

C0002	Kiran	B002	Bagnan
C0003	Ravi	B003	Tamluk
C0004	Zaheer	B004	Midnapur
C0005	Thomas	B005	Panskura
C0006	Jatin		

Account

Ano	Atype	Balance	Cid	Bcode
A0001	S	12004.50	C0003	B002
A0002	S	48000.00	C0001	B002
A0003	C	25000.00	C0003	B002
A0004	S	8750.75	C0004	B001
A0005	S	2000.00	C0005	B004
A0006	C	120000.00	C0005	B004
A0007	C	85025.25	C0002	B003
A0008	S	110011.50	C0002	B001
A0009	S	5000.50	C0004	B003
A0010	C	35000.00	C0001	B004
A0011	S	4500.00	C0001	B005
A0012	C	98050.75	C0006	B004

Transaction

Tid	Ano	Ttype	Tdate	Tamount
T0001	A0003	W	2021-Dec-22	2000.00
T0002	A0004	W	2021-Dec-23	1200.50
T0003	A0001	D	2021-Dec-28	200.00
T0004	A0003	D	2021-Dec-30	1050.00
T0005	A0012	W	2022-Jan-07	400.00
T0006	A0002	D	2022-Jan-10	7200.00
T0007	A0007	W	2022-Jan-12	300.50
T0008	A0009	W	2022-Jan-25	1000.50
T0009	A0005	D	2022-Feb-02	300.00
T0010	A0008	W	2022-Feb-05	4000.00
T0011	A0011	D	2022-Feb-12	500.00

3. Develop a SQL query to list the details of customers who have a saving account as well as a current account.
4. Develop a SQL query to list the details of branches and the number of accounts in each branch.
5. Develop a SQL query to list the details of branches where the number of accounts is less than the average number of accounts in all branches.
6. Create a view called BRANCH_DATA that will keep track of branch details and the number of accounts in each branch.
7. Develop a SQL query to list the total worth of accounts for each customer sorted in descending order.
8. Create a view named NET_WORTH for the last query.
9. Delete data for 'Ramesh' from the view NET_WORTH.