### Easy Problem Statements:

1. \*\*Easy - Users List:\*\*

Retrieve a list of all users along with their first names, last names, and email addresses.

2. \*\*Easy - Account Balances:\*\*

Display the account numbers and current balances of all credit card accounts.

3. \*\*Easy - Transaction Count:\*\*

Calculate and display the total number of transactions in the system.

4. \*\*Easy - High Balance Users:\*\*

List the first names and last names of users who have a credit card balance greater than 10000.

5. \*\*Easy - Transaction Types:\*\*

Show a distinct list of transaction types (e.g., Purchase, Withdrawal) from the Transactions table.

6. \*\*Easy - User Addresses:\*\*

Retrieve the first name, last name, and address of users who live in Delhi.

7. \*\*Easy - Oldest Card Expiry:\*\*

Find the user with the credit card that is expiring soonest and display their name and email.

8. \*\*Easy - Payment Amounts:\*\*

List the amounts of payments made by users.

9. \*\*Easy - Available Credit:\*\*

Calculate and display the available credit for each credit card (credit limit - balance).

10. \*\*Easy - Transaction Timestamps:\*\*

Retrieve the timestamps of the latest three transactions.

11. \*\*Easy - User Count:\*\*

Count the total number of users in the Users table.

12. \*\*Easy - Card Count:\*\*

Count the total number of credit cards in the system.

13. \*\*Easy - Payment Dates:\*\*

List the payment dates of payments made by users.

14. \*\*Easy - User Email:\*\*

Retrieve the email addresses of all users.

15. \*\*Easy - Card Expiry Dates:\*\*

Display the expiry dates of all credit cards.

### Moderate Problem Statements:

1. \*\*Moderate - Total Balance:\*\*

Calculate and display the total balance of all credit card accounts combined.

2. \*\*Moderate - Recent Transactions:\*\*

Retrieve the details of the last five transactions, including sender/receiver, amount, and type.

3. \*\*Moderate - Average Transaction Amount:\*\*

Calculate and display the average amount of all transactions.

4. \*\*Moderate - User Transaction Count:\*\*

List the names of users along with the number of transactions they've made.

5. \*\*Moderate - Highest Credit Limit:\*\*

Find and display the user with the highest credit limit and their credit limit value.

6. \*\*Moderate - Account With Most Transactions:\*\*

Identify the credit card with the most transactions and display its card number.

7. \*\*Moderate - Users with Overdue Payments:\*\*

Retrieve a list of users who have payments due today or earlier.

8. \*\*Moderate - Card Expiry by Year:\*\*

Count and display how many credit cards will expire in each year.

9. \*\*Moderate - User Balances:\*\*

List the users along with the sum of their credit card balances.

10. \*\*Moderate - Transaction Type Distribution:\*\*

Display the distribution of transaction types (e.g., percentage of purchases, withdrawals).

11. \*\*Moderate - Highest Transaction Amount:\*\*

Find the highest transaction amount and display the transaction details.

12. \*\*Moderate - Expensive Transactions:\*\*

Retrieve transactions with amounts greater than 1000 and display user names and transaction amounts.

13. \*\*Moderate - Oldest User:\*\*

Find the oldest user (based on date of birth) and display their name and birthdate.

14. \*\*Moderate - Payment Distribution:\*\*

Display the distribution of payment amounts (e.g., number of payments between certain ranges).

15. \*\*Moderate - Card Usage Frequency:\*\*

Calculate the average number of transactions per card and display it.

### Advanced Problem Statements:

1. \*\*Advanced - Credit Utilization:\*\*

Calculate and display the credit utilization ratio (total balance / total credit limit) for each user.

2. \*\*Advanced - Frequent Transactors:\*\*

List users who have made more than 10 transactions and display their names along with the transaction count.

3. \*\*Advanced - Highest Payment Amount:\*\*

Find the user who made the highest payment and display their name and the payment amount.

4. \*\*Advanced - Average Payment Delay:\*\*

Calculate the average delay between the due date and the actual payment date for bill payments.

5. \*\*Advanced - Largest Transaction Difference:\*\*

Identify the transaction with the largest difference between the sender's balance before and after the transaction.

6. \*\*Advanced - Fraudulent Transactions:\*\*

Detect any transactions where the transaction amount exceeds the credit card's available balance.

7. \*\*Advanced - Most Common Transaction Type:\*\*

Determine the most common transaction type across all transactions and display it.

8. \*\*Advanced - Payment Trend Analysis:\*\*

Analyze the trend of payments over the last 6 months and display the total payment amounts for each month.

9. \*\*Advanced - Total Payment Amount:\*\*

Calculate the total amount paid by all users and display it.

10. \*\*Advanced - Active Users:\*\*

Identify users who have made transactions in the last 30 days and display their names.

11. \*\*Advanced - Average Age:\*\*

Calculate the average age of all users based on their birthdates.

12. \*\*Advanced - Frequent Withdrawal Users:\*\*

List users who have made more than 5 withdrawals and display their names along with the withdrawal count.

13. \*\*Advanced - Monthly Transaction Count:\*\*

Display a bar chart of the monthly transaction counts over the past year.

14. \*\*Advanced - Payment Patterns:\*\*

Analyze the pattern of payment amounts (e.g., increasing, decreasing) over time.

15. \*\*Advanced - Highest Average Transaction:\*\*

Find the user with the highest average transaction amount and display their name and average amount.