PL/SQL EXERCISES

Exercise 1: Control Structures

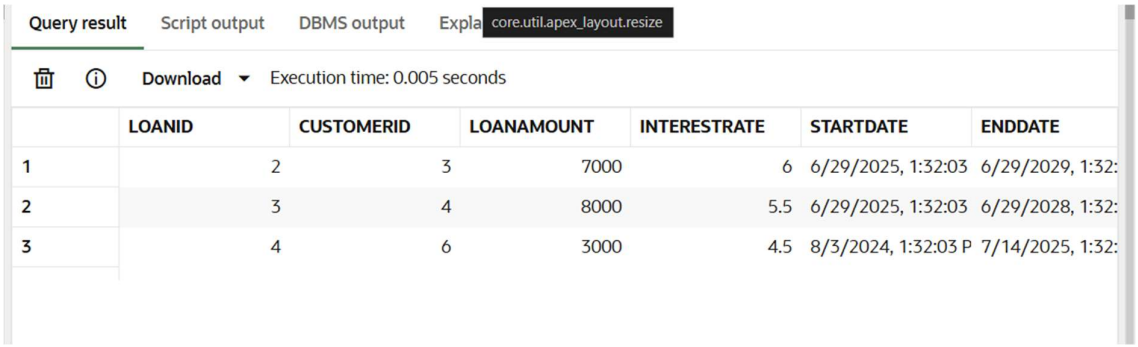
PL/SQL CODE:

```
-- Scenario 1: Apply 1% interest discount for customers above 60 years
BEGIN
    FOR cust IN (SELECT CustomerID, DOB FROM Customers) LOOP
        IF MONTHS_BETWEEN(SYSDATE, cust.DOB) / 12 > 60 THEN
            UPDATE Loans
            SET InterestRate = InterestRate - 1
            WHERE CustomerID = cust.CustomerID;
        END IF;
    END LOOP;
    COMMIT;
END;
/

-- Scenario 2: Set IsVIP = 'Y' for customers with balance > 10000
BEGIN
    FOR cust IN (SELECT CustomerID, Balance FROM Customers) LOOP
        IF cust.Balance > 10000 THEN
            UPDATE Customers
            SET IsVIP = 'Y'
            WHERE CustomerID = cust.CustomerID;
        END IF;
    END LOOP;
    COMMIT;
END;
/

-- Scenario 3: Print loan due reminders within next 30 days
SET SERVEROUTPUT ON
BEGIN
    FOR loan IN (
        SELECT LoanID, CustomerID, EndDate
        FROM Loans
        WHERE EndDate BETWEEN SYSDATE AND SYSDATE + 30
```

```
    ) LOOP
        DECLARE
            v_name VARCHAR2(100);
        BEGIN
            SELECT Name INTO v_name FROM Customers WHERE CustomerID = loan.CustomerID;
            DBMS_OUTPUT.PUT_LINE('Reminder: Dear ' || v_name || ', your loan (ID: ' || loan.LoanID || ') is due on ' ||
TO_CHAR(loan.EndDate, 'YYYY-MM-DD'));
        END;
    END LOOP;
END;
/


select * from Accounts;
select * from CUSTOMERS;
select * from Loans;
```

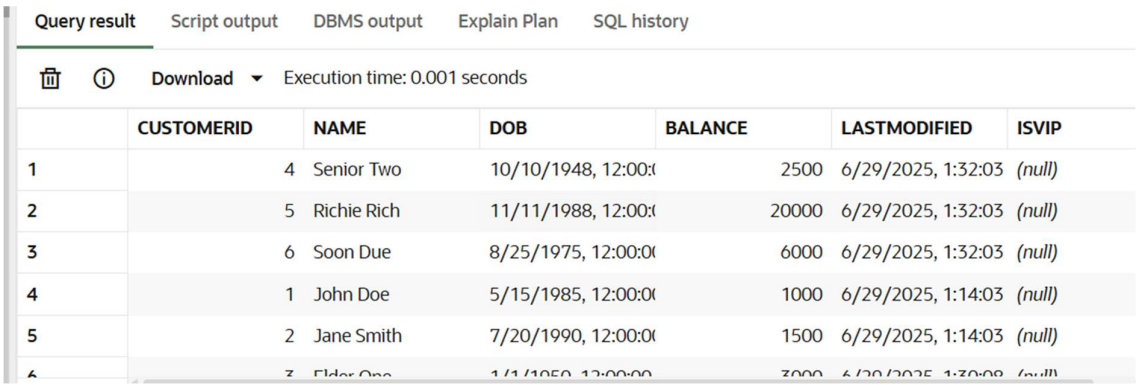
Scenario 1:

Loan Table:



	LOANID	CUSTOMERID	LOANAMOUNT	INTERESTRATE	STARTDATE	ENDDATE
1	2	3	7000	6	6/29/2025, 1:32:03	6/29/2029, 1:32:
2	3	4	8000	5.5	6/29/2025, 1:32:03	6/29/2028, 1:32:
3	4	6	3000	4.5	8/3/2024, 1:32:03 P	7/14/2025, 1:32:

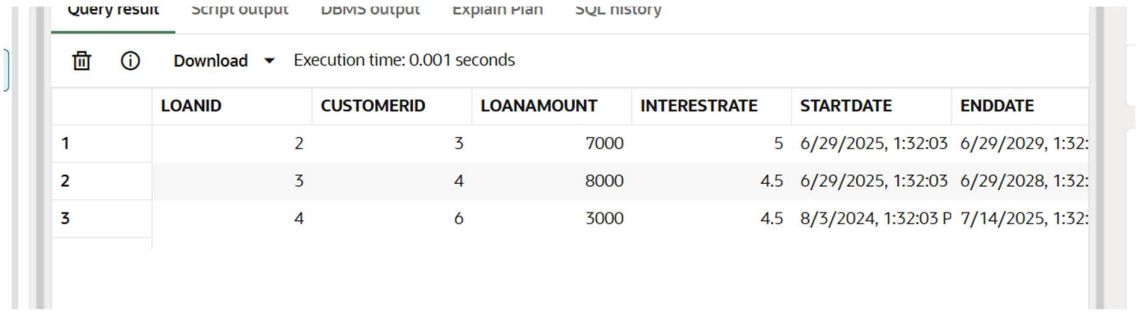
Customer Table:



	CUSTOMERID	NAME	DOB	BALANCE	LASTMODIFIED	ISVIP
1	4	Senior Two	10/10/1948, 12:00:(	2500	6/29/2025, 1:32:03	*(null)*
2	5	Richie Rich	11/11/1988, 12:00:(	20000	6/29/2025, 1:32:03	*(null)*
3	6	Soon Due	8/25/1975, 12:00:0(	6000	6/29/2025, 1:32:03	*(null)*
4	1	John Doe	5/15/1985, 12:00:0(	1000	6/29/2025, 1:14:03	*(null)*
5	2	Jane Smith	7/20/1990, 12:00:0(	1500	6/29/2025, 1:14:03	*(null)*
6	3	Elder One	1/1/1950, 12:00:00	3000	6/29/2025, 1:30:08	*(null)*

Output:

Loan Table



Query result | Script output | DBMS output | Explain Plan | SQL history

Download | Execution time: 0.001 seconds

	LOANID	CUSTOMERID	LOANAMOUNT	INTERESTRATE	STARTDATE	ENDDATE
1	2	3	7000	5	6/29/2025, 1:32:03	6/29/2029, 1:32:
2	3	4	8000	4.5	6/29/2025, 1:32:03	6/29/2028, 1:32:
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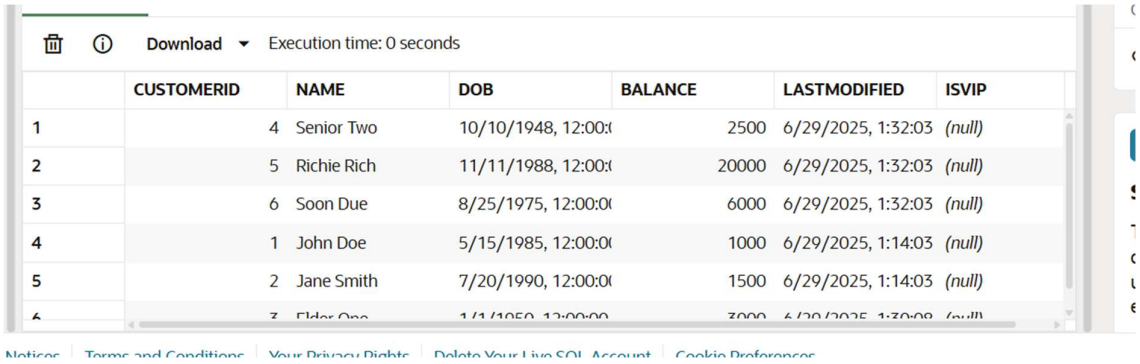
Customer Table



Download | Execution time: 0 seconds

	CUSTOMERID	NAME	DOB	BALANCE	LASTMODIFIED	ISVIP
1	4	Senior Two	10/10/1948, 12:00:(	2500	6/29/2025, 1:32:03	(null)
2	5	Richie Rich	11/11/1988, 12:00:(	20000	6/29/2025, 1:32:03	(null)
3	6	Soon Due	8/25/1975, 12:00:0(	6000	6/29/2025, 1:32:03	(null)
4	1	John Doe	5/15/1985, 12:00:0(	1000	6/29/2025, 1:14:03	(null)
5	2	Jane Smith	7/20/1990, 12:00:0(	1500	6/29/2025, 1:14:03	(null)
6	3	Elder One	1/1/1950, 12:00:00	3000	6/20/2025, 1:30:08	(null)

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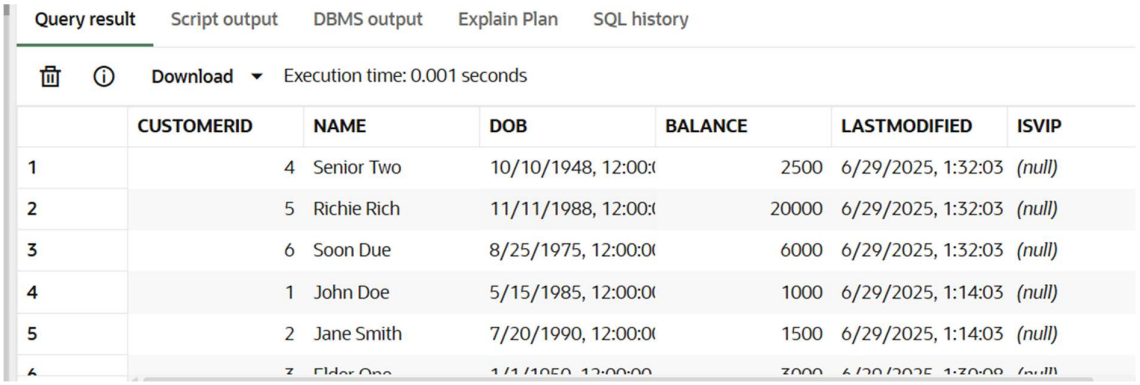
Scenario 2:

Customer Table:



Query result | Script output | DBMS output | Explain Plan | SQL history

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	CUSTOMERID	NAME	DOB	BALANCE	LASTMODIFIED	ISVIP
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3	6	Soon Due	8/25/1975, 12:00:0(	6000	6/29/2025, 1:32:03	(null)
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5	2	Jane Smith	7/20/1990, 12:00:0(	1500	6/29/2025, 1:14:03	(null)
6	3	Elder One	1/1/1950, 12:00:00	3000	6/20/2025, 1:30:08	(null)

OUTPUT:

Customer Table:

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	CUSTOMERID	NAME	DOB	BALANCE	LASTMODIFIED	ISVIP
1	4	Senior Two	10/10/1948, 12:00:(	2500	6/29/2025, 1:32:03	*(null)*
2	5	Richie Rich	11/11/1988, 12:00:(	20000	6/29/2025, 1:32:03	Y
3	6	Soon Due	8/25/1975, 12:00:0(	6000	6/29/2025, 1:32:03	*(null)*
4	1	John Doe	5/15/1985, 12:00:0(	1000	6/29/2025, 1:14:03	*(null)*
5	2	Jane Smith	7/20/1990, 12:00:0(	1500	6/29/2025, 1:14:03	*(null)*
6	3	Elder One	1/1/1950, 12:00:00	3000	6/29/2025, 1:30:08	*(null)*

Scenario 3:

Loan Table:

Query result Script output DBMS output Explain Plan SQL history

Download Execution time: 0.001 seconds

	LOANID	CUSTOMERID	LOANAMOUNT	INTERESTRATE	STARTDATE	ENDDATE
1	2	3	7000	5	6/29/2025, 1:32:03	6/29/2029, 1:32:
2	3	4	8000	4.5	6/29/2025, 1:32:03	6/29/2028, 1:32:
3	4	6	3000	4.5	8/3/2024, 1:32:03 P	7/14/2025, 1:32:

OUTPUT:

```
Reminder: Dear Soon Due, your loan (ID: 4) is due on 2025-07-14

PL/SQL procedure successfully completed.

Elapsed: 00:00:00.011
```