## Week 2 – PL / SQL PROGRAMMING

### Exercise 1: Control Structures

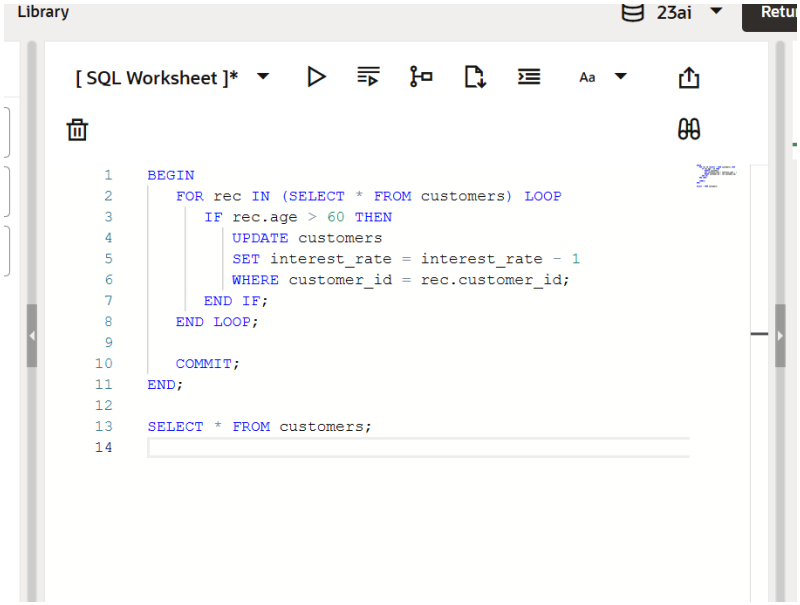
**Scenario 1: The bank wants to apply a discount to loan interest rates for customers above 60 years old.**

- **Question: Write a PL/SQL block that loops through all customers, checks their age, and if they are above 60, apply a 1% discount to their current loan interest rates.**

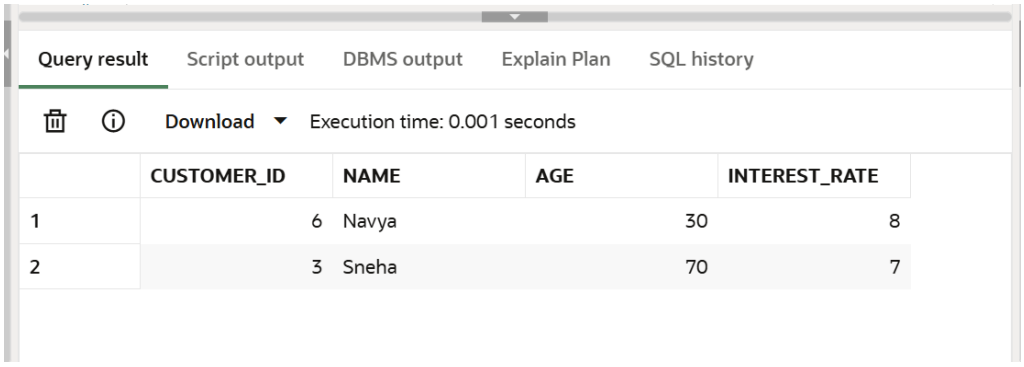
**CODE :**

```
BEGIN
  FOR rec IN (SELECT * FROM customers) LOOP
    IF rec.age > 60 THEN
      UPDATE customers
      SET interest_rate = interest_rate - 1
      WHERE customer_id = rec.customer_id;
    END IF;
  END LOOP;

  COMMIT;
END;
```




**OUTPUT :**




| | CUSTOMER_ID | NAME | AGE | INTEREST_RATE |
|---|---|---|---|---|
| 1 | 6 | Navya | 30 | 8 |
| 2 | 3 | Sneha | 70 | 7 |

**Scenario 2: A customer can be promoted to VIP status based on their balance.**

- **Question: Write a PL/SQL block that iterates through all customers and sets a flag IsVIP to TRUE for those with a balance over $10,000.**

**CODE:**

```
BEGIN
  FOR rec IN (SELECT * FROM customer_accounts) LOOP
    IF rec.balance > 10000 THEN
      UPDATE customer_accounts
      SET is_vip = 'TRUE'
      WHERE customer_id = rec.customer_id;
```

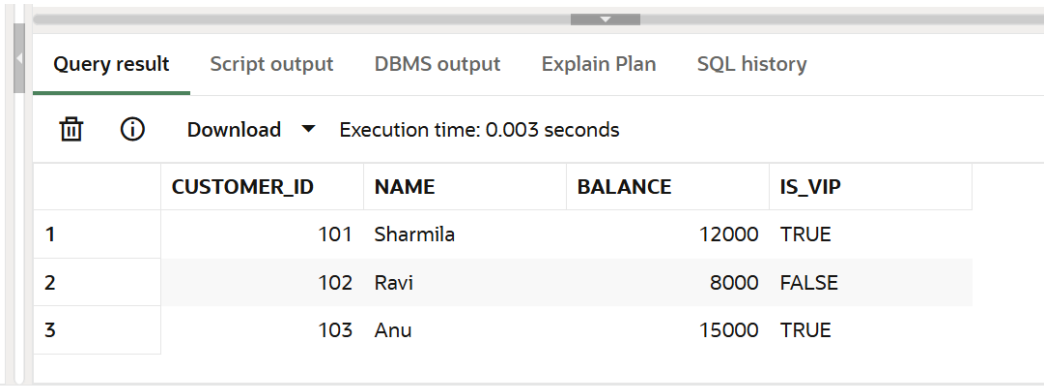
```
    END IF;
  END LOOP;


  COMMIT;
END;
/
SELECT * FROM customer_accounts;
```

```
BEGIN
    FOR rec IN (SELECT * FROM customer_accounts) LOOP
        IF rec.balance > 10000 THEN
            UPDATE customer_accounts
            SET is_vip = 'TRUE'
            WHERE customer_id = rec.customer_id;
        END IF;
    END LOOP;

    COMMIT;
END;
/
SELECT * FROM customer_accounts;
```

**OUTPUT :**



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

Download | Execution time: 0.003 seconds

| | CUSTOMER_ID | NAME | BALANCE | IS_VIP |
|---|---|---|---|---|
| 1 | 101 | Sharmila | 12000 | TRUE |
| 2 | 102 | Ravi | 8000 | FALSE |
| 3 | 103 | Anu | 15000 | TRUE |

**Scenario 3:** **The bank wants to send reminders to customers whose loans are due within the next 30 days.**

- **Question: Write a PL/SQL block that fetches all loans due in the next 30 days and prints a reminder message for each customer.**

**CODE :**

```
BEGIN
  FOR rec IN (SELECT * FROM loans WHERE due_date <= SYSDATE + 30) LOOP
    DBMS_OUTPUT.PUT_LINE('Reminder: Loan ID ' || rec.loan_id ||
                ' for ' || rec.customer_name ||
                ' is due on ' || TO_CHAR(rec.due_date, 'DD-MON-YYYY'));
  END LOOP;
END;
```

```
BEGIN
    FOR rec IN (SELECT * FROM loans WHERE due_date <= SYSDATE + 30) LOOP
      DBMS_OUTPUT.PUT_LINE('Reminder: Loan ID ' || rec.loan_id ||
                           ' for ' || rec.customer_name ||
                           ' is due on ' || TO_CHAR(rec.due_date, 'DD-MON-YYYY'));
    END LOOP;
END;
```

**OUTPUT :**