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Course: BE-CSE (AI&ML)

Subject: Database Management System

Experiment 3: PL/SQL program

1. Aim of the Session

To understand the basic structure of a PL/SQL program by creating and executing a simple PL/SQL block that includes **declaration** and **execution** sections, and to display output using built-in procedures.

2. Software Requirements:

- **Database:** Oracle SQL

3. Objective of the Session

To create a simple PL/SQL program demonstrating **Declaration Section** and **Execution Section**.

4. Practical / Experiment Steps

The work was carried out through the following activities:

1. **Program Structure Definition**: Designed a basic PL/SQL block consisting of declaration and execution sections to understand the program flow.
2. **Variable Declaration:** Declared required variables in the `DECLARE` section with appropriate data types.
3. **Logic Implementation:** Wrote executable statements inside the `BEGIN…END` block to perform operations using declared variables.
4. **Output Display:** Used built-in procedures such as `DBMS_OUTPUT.PUT_LINE` to display results on the screen.
5. **Execution and Verification:** Executed the PL/SQL block and verified correct output generation and successful program execution.

5. Procedure of the Practical

Execution was performed in the following order:

1. **Environment Initialization:** Opened the Oracle SQL environment (SQL*Plus / SQL Developer) and connected to the database server.
2. **Session Configuration:** Enabled output display using the `SET SERVEROUTPUT ON` command.
3. **Program Preparation:** Wrote a basic PL/SQL block with DECLARE, BEGIN, and END sections.
4. **Variable Setup:** Declared required variables with suitable data types in the declaration section.
5. **Logic Execution:** Implemented executable statements inside the BEGIN block.
6. **Output Handling:** Used `DBMS_OUTPUT.PUT_LINE` to display execution results.
7. **Program Execution:** Ran the PL/SQL block to execute the program.
8. **Result Verification:** Verified the displayed output to ensure correct program behavior.
9. **Documentation:** Saved the PL/SQL script and recorded the output for submission.

6. I/O Analysis (Input / Output Analysis)

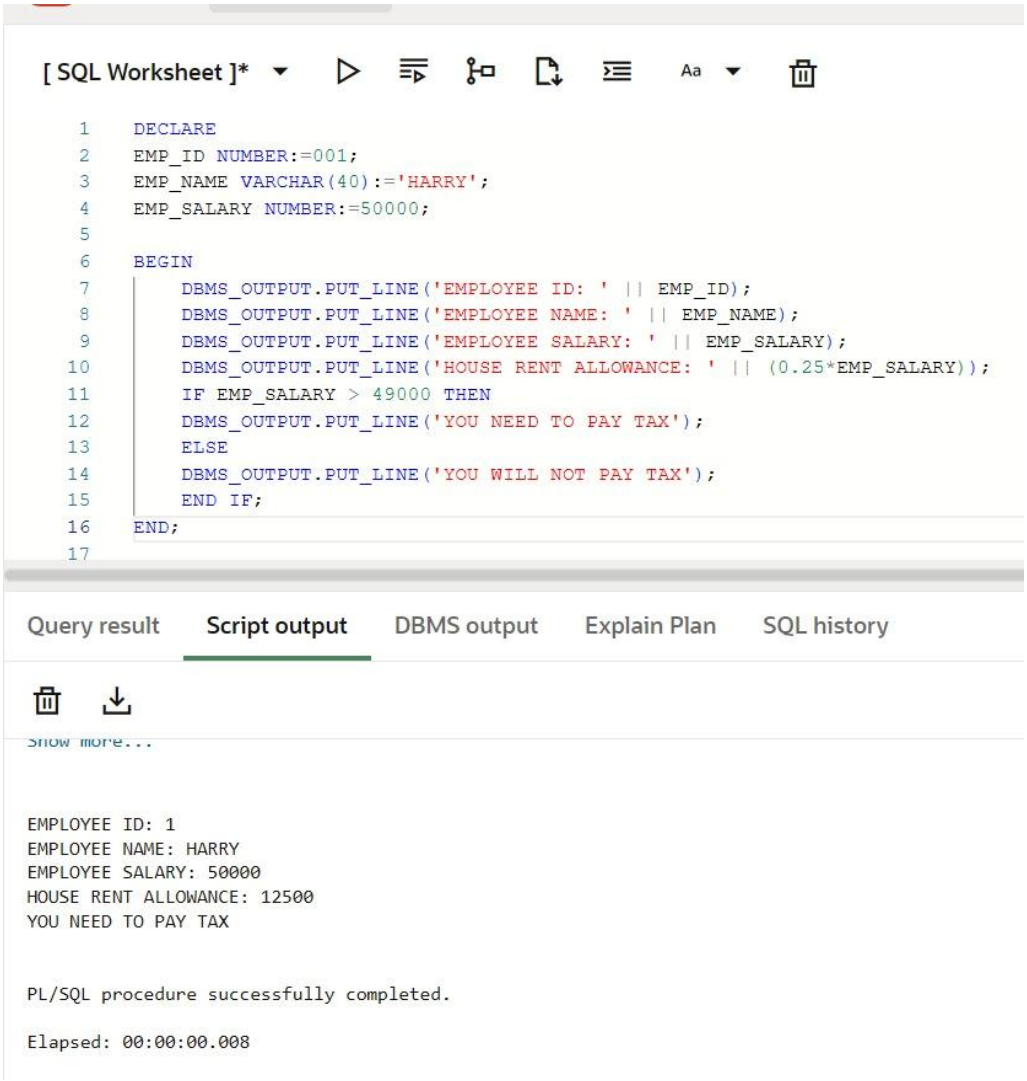
Input Queries

SQL

```
DECLARE
EMP_ID NUMBER:=001;
EMP_NAME VARCHAR(40):='HARRY';
EMP_SALARY NUMBER:=50000;

BEGIN
    DBMS_OUTPUT.PUT_LINE('EMPLOYEE ID: ' || EMP_ID);
    DBMS_OUTPUT.PUT_LINE('EMPLOYEE NAME: ' || EMP_NAME);
    DBMS_OUTPUT.PUT_LINE('EMPLOYEE SALARY: ' || EMP_SALARY);
    DBMS_OUTPUT.PUT_LINE('HOUSE RENT ALLOWANCE: ' || (0.25*EMP_SALARY));
    IF EMP_SALARY > 49000 THEN
    DBMS_OUTPUT.PUT_LINE('YOU NEED TO PAY TAX');
    ELSE
    DBMS_OUTPUT.PUT_LINE('YOU WILL NOT PAY TAX');
    END IF;
END;
```

Output Details



7. Learning Outcome

- Understood the basic structure of a PL/SQL program.
- Learned how to declare and use variables in PL/SQL.
- Gained experience in writing executable statements within a PL/SQL block.
- Used built-in procedures to display output.
- Developed basic procedural programming skills in PL/SQL.