PL/SQL Interview Questions and Answers (1–3 Years Experience)

## 1. What is the difference between SQL and PL/SQL?

SQL is a query language to interact with databases (DML/DDL), while PL/SQL is Oracle’s procedural extension to SQL. SQL is declarative, PL/SQL is procedural, supporting loops, conditions, variables, and error handling.

## 2. Structure of a PL/SQL block?

DECLARE  
 -- variable declarations (optional)  
BEGIN  
 -- executable statements (mandatory)  
EXCEPTION  
 -- error handling (optional)  
END;

## 3. Difference between Procedure and Function?

Procedure: performs actions, does not return a value directly.  
Function: must return a value, can be used in SELECT.  
Functions are used for computations; procedures for operations.

## 4. Parameter Modes: IN, OUT, IN OUT?

IN: passes value to procedure/function.  
OUT: returns value to caller.  
IN OUT: passes and returns value.

## 5. What is a Cursor? Types?

A cursor is a pointer to a result set. Implicit cursors are used for single-row queries. Explicit cursors are declared and used manually for multi-row queries.

## 6. What are %TYPE and %ROWTYPE?

%TYPE: variable gets datatype of a table column.  
%ROWTYPE: variable gets structure of a full table row.

## 7. Write a Procedure to Increase Employee Salary by 10%

CREATE OR REPLACE PROCEDURE increase\_salary(p\_id IN NUMBER) IS  
BEGIN  
 UPDATE employees  
 SET salary = salary \* 1.10  
 WHERE employee\_id = p\_id;  
 COMMIT;  
END;

## 8. Can a Function be Called in SQL SELECT?

Yes, if it returns a scalar value and has no OUT/IN OUT parameters or side effects.

## 9. What is Exception Handling in PL/SQL?

Allows handling of runtime errors. Predefined (e.g., NO\_DATA\_FOUND) and user-defined exceptions can be used.  
Example:  
BEGIN  
 -- logic  
EXCEPTION  
 WHEN NO\_DATA\_FOUND THEN  
 DBMS\_OUTPUT.PUT\_LINE('No record found.');  
END;

## 10. How do you Optimize PL/SQL Code?

Use BULK COLLECT and FORALL, avoid SQL in loops, use bind variables, and apply proper indexing.

## 11. Example of Using BULK COLLECT and FORALL

DECLARE  
 TYPE id\_tab IS TABLE OF employees.employee\_id%TYPE;  
 l\_ids id\_tab;  
BEGIN  
 SELECT employee\_id BULK COLLECT INTO l\_ids FROM employees WHERE department\_id = 10;  
 FORALL i IN 1 .. l\_ids.COUNT  
 UPDATE employees SET salary = salary \* 1.10 WHERE employee\_id = l\_ids(i);  
END;

## 12. What are Triggers? Types?

Triggers are PL/SQL blocks that fire automatically on DML events (INSERT, UPDATE, DELETE). Types: BEFORE, AFTER, INSTEAD OF.

## 13. Difference Between DELETE, TRUNCATE, and DROP?

DELETE: Can rollback, fires triggers. TRUNCATE: Faster, can’t rollback, no triggers. DROP: Removes table entirely.

## 14. Can a Procedure Call a Function? Vice Versa?

Yes, both can call each other as long as parameter and return types are compatible.

## 15. How Does PL/SQL Work with Java?

Using JDBC, Java can call PL/SQL procedures/functions with CallableStatement. Oracle also allows Java stored procedures inside the database.