

PL/SQL Table of contents

1 Variables INFORMATION

- PL/SQL Block Structure, Block Types
- Types of Variables & Naming Rules
- Variable Initialization and Keywords
- Scalar Data Types
- %TYPE Attribute features
- Boolean Variables and HANDLING
- Non-PL/SQL Variables
- DBMS_OUTPUT.PUT_LINE

2 Executable Statements

- Data type Conversion Implicit / Explicit
- Nested Blocks and Variable Scope
- Operators in PL/SQL

3 Interacting with the Oracle Server

- Retrieving Data in PL/SQL
- Naming Conventions
- Manipulating Data Using PL/SQL
- Inserting Data ,Updating Data ,Deleting Data ,Merging Rows
- Implicit Cursor – Attributes – Tricks & usage

4 Control Structures

- Controlling PL/SQL Flow of Execution
- IF-THEN-ELSE Statement Execution
- CASE Expressions
- Handling Nulls, Logic Tables , Boolean Conditions
- LOOP Statements: Basic Loops , WHILE Loops ,FOR Loops
- Nested Loops and Labels
- Goto Statement

5 Composite Variables

- Composite Data Types : RECORDS AND COLLECTION
- Record Variable – features & Tricks
- Collection : INDEX BY Tables , NESTED TABLE, VARRAY
- %ROWTYPE Attribute advantage
- Methods: EXTEND, TRIM , EXISTS,
 COUNT, LIMIT, FIRST,
 LAST, PRIOR,NEXT, DELETE
- DML Process - Records & Collection – Advantages.

6 Explicit Cursors

- Explicit Cursor Structure
- Explicit Cursor Attributes – Tricks & usage.
- Explicit Cursor with Scalar, Record & Collection Variable
- Controlling Multiple Fetches
- Cursor with Sub-query, Join-query, Aggregating Functions
- Cursor FOR Loops
- Cursor FOR Loops Using Sub-queries

7 Advanced Explicit Cursor Concepts

- Cursors with Parameters
- The FOR UPDATE Clause
- The WHERE CURRENT OF Clause

8 Handling Exceptions

- Handling Exceptions with PL/SQL
- Exception Types
- Trapping Exceptions
- Predefined Exceptions
- Non-predefined Exceptions
- Functions for Trapping Exceptions
- Trapping User-Defined Exceptions
- Propagating Exceptions
- RAISE_APPLICATION_ERROR

9 Procedures

- Syntax for Creating Procedures
- Formal versus Actual Parameters
- Procedures with Parameters : IN , OUT, IN OUT
- Methods for Passing Parameters, DEFAULT Option for Parameters
- Invoking a Procedure from an Anonymous PL/SQL Block
- Invoking a Procedure from another Procedure
- Handled Exceptions
- Unhandled Exceptions

10 Sub-programs

- Declaring, Rules and invoking Subprograms
- Benefits of Subprograms
- Subprogram with parameter

11 Functions

- Syntax for Creating Functions Creating and Executing Function Invoking
- Functions in SQL Expressions
- Restrictions on Calling Functions from SQL Expressions and SQL Subprogram in Functions.
- Invoking Functions in Procedure/ Function / Sub-programs

12 Dictionary table usages

- USER_OBJECTS, USER_SOURCE ,
- USER_ERRORS , SHOW ERRORS
- USER_DEPENDENCIES

13 Packages

- Components of a Package
- Referencing Package Objects
- Creating a Package Specification/Body
- Public and Private Constructs
- Invoking Package Constructs
- Referencing a Public Variable from a Stand-alone Procedure
- Advantages / Disadvantage of Packages
- Sub-program in Packages

14 Advanced Package Concepts

- Overloading:
- Using Forward Declarations
- Restrictions on Package Functions Used in SQL
- Variable Persistent State in Package
- Cursor Persistent State in Package

15 Oracle Supplied Packages

- Dynamic SQL Using EXECUTE IMMEDIATE
- UTL_FILE
- Export & Import -TEXT file, CSV File, Tab Separated File, Pipe Separated File

16 Creating Database Triggers

- Types of Triggers
- Database Trigger:
- DML Trigger Components
- Trigger Usage - Tricks

17 Bulking in PL/SQL

- Bulk Collect
- Bulk Insert Forall Bulk
- Collect Limit Comparing performance:
 - Record Variable,
 - Collection Variable,
 - Collection Variable with Bulk collect
 - Collection Variable with Forall

18 General

- Ref Cursor Usage
- Parameter data type –Ref Cursor / Record variable tricks
- PRAGMA AUTONOMOUS_TRANSACTION – feature

19 XML File Handling (CLOB / XMLtype)

- XML File Generating
- Generate XML script from table.
- Inserting XML Script into Table
- Copying CLOB filed to another Table.
- Importing & Exporting XML Files