

# Overview of SQL/PLSQL

SQL : Structured Query Language

PL/SQL : Procedural SQL

SQL : Declarative in Nature

✓ What to do

✗ How to do

PL/SQL : Declarative in Nature

✓ What to do

✓ How to do

Major Topics:

1. Function
2. Procedure
3. Trigger
4. Cursor

Difference : Function & Trigger

Syntax and Return Values

Function: Always returns a value = ticket value (Function)

Procedure: May/May not return a value = (Name, seat) => ticket + Name + seat => Trigger - Mark the seat as not available

SQL has:

Queries

PL/SQL has:

PL/SQL Block/Code

SQL : Write a Query

PL/SQL : Write a Program/Procedure

## Topics in PL/SQL

1. Group By (Optional)
2. Order By
3. WITH Aggregate (Min, Max)
4. Operations
5. Joins
6. Constraints (5 types)
7. Indexes
8. Procedure
9. Function ( 2 types: Single Row/Multi Row)
10. Package
11. Exceptions
12. Views
13. Materialized Views
14. Cursor
15. Triggers

## SQL Commands Types:

1. Data Definition Language (DDL) - Structure of the Table
  1. Create
  2. Alter
  3. Drop
  4. Truncate
  5. Rename
2. Data Manipulation Language (DML) - Shuffling with Data
  1. Select
  2. Insert
  3. Update
  4. Delete
3. Data Control Language (DCL) - Permission who can access
  1. Grant
  2. Revoke
4. Transaction Control Language (TCL) - Crucial Points in Transaction
  1. Commit
  2. Rollback
  3. Savepoint

## Constraints:

1. Primary Key - Roll No
2. Foreign Key -
3. Check
4. Unique -
5. Default - Admitted
6. Not Null - Name

## PL/SQL Block

Declaration: (Optional)

    a int

Executable Code: (Mandatory)

    program code lines

Exception Handling: (Optional)

    Specific/Generic

End

### Example 1:

BEGIN

    DBMS\_OUTPUT.PUT\_LINE('HELLO'); // Body (Executable Code)

Section

END;

### Example 2:

DECLARE

//

Declaration Section

    NAME VARCHAR2(10) := 'SID';

BEGIN

    DBMS\_OUTPUT.PUT\_LINE(NAME); // Body (Executable Code)

Section

END;

### Example 3:

```
DECLARE                                                    //
Declaration Section
    N1 NUMBER := 5;
    N2 NUMBER := 0;
BEGIN
    DBMS_OUTPUT.PUT_LINE(N1/N2);  // Body (Executable Code)
Section
    EXCEPTION
        WHEN ZERO_DIVIDE THEN.    // Exception Section
        DBMS_OUTPUT.PUT_LINE('Division by zero not allowed');
END;
```