**PL/SQL**

**Q1-> PL/SQL and it’s features.**

PL/SQL is a combination of SQL along with the procedural features of programming languages. It was developed by Oracle Corporation in the early 90's to enhance the capabilities of SQL. PL/SQL is one of three key programming languages embedded in the Oracle Database, along with SQL itself and Java. This tutorial will give you great understanding on PL/SQL to proceed with Oracle database and other advanced RDBMS concepts.

Features of PL/SQL

PL/SQL has the following features −

PL/SQL is tightly integrated with SQL.

It offers extensive error checking.

It offers numerous data types.

It offers a variety of programming structures.

It supports structured programming through functions and procedures.

It supports object-oriented programming.

It supports the development of web applications and server pages.

**Q2-> Explain the basic structure followed in PL/SQL.**

* The basic structure of PL/SQL follows the BLOCK structure. Each PL/SQL code comprises SQL and PL/SQL statement that constitutes a PL/SQL block.
* Each PL/SQL block consists of 3 sections:
  + The optional Declaration Section
  + The mandatory Execution Section
  + The optional Exception handling Section

[DECLARE]

--declaration statements (optional)

BEGIN

--execution statements

[EXCEPTION]

--exception handling statements (optional)

END;

**Q3-> PL/SQL Cursor.**

A cursor is a pointer to this context area. PL/SQL controls the context area through a cursor. A cursor holds the rows (one or more) returned by a SQL statement. The set of rows the cursor holds is referred to as the active set.

There are two types of cursors −

* Implicit cursors
* Explicit cursors

## Implicit Cursors

Implicit cursors are automatically created by Oracle whenever an SQL statement is executed, when there is no explicit cursor for the statement. Programmers cannot control the implicit cursors and the information in it.

## Explicit Cursors

Explicit cursors are programmer-defined cursors for gaining more control over the context area. An explicit cursor should be defined in the declaration section of the PL/SQL Block. It is created on a SELECT Statement which returns more than one row.

### **Q4->** **Write a PL/SQL procedure for selecting some records from the database using some parameters as filters**.

Consider that we are fetching details of employees from ib\_employee table where salary is a parameter for filter.

CREATE PROCEDURE get\_employee\_details @salary nvarchar(30)

AS

BEGIN

SELECT \* FROM ib\_employee WHERE salary = @salary;

END;

### **Q5->** **Write PL/SQL program to find the sum of digits of a number.**

DECLARE

--Declare variables num, sum\_of\_digits and remainder of datatype Integer

num INTEGER;

sum\_of\_digits INTEGER;

remainder INTEGER;

BEGIN

num := 123456;

sum\_of\_digits := 0;

WHILE num <> 0 LOOP

remainder := MOD(num, 10);

sum\_of\_digits := sum\_of\_digits + remainder;

num := TRUNC(num / 10);

END LOOP;

dbms\_output.PUT\_LINE('Sum of digits is '|| sum\_of\_digits);

END;

### .