**PL/SQL** :

* Stands for Procedural Language / structured query language

**General PL/SQL block syntax**:

DECLARE

Variable declaration

BEGIN

Executable commands

EXCEPTION

Exception handling statement(s)

END

Example:

begin

dbms\_output.put\_line('Welcome to KTS');

end;

declare

name varchar2(30) := 'Krishna';

begin

dbms\_output.put\_line('Welcome '||name);

end;

**PLSQL Procedures:**

**Syntax:**

CREATE [OR REPLACE] PROCEDURE procedure\_name

(parameter\_name IN|OUT|IN OUT data\_type, ….)

AS|IS

Variable declaration

BEGIN

Executable commands

EXCEPTION

Exception handling statement(s)

END

**Example**:

create or replace procedure reg\_student(n varchar2, c varchar2, f number)

as

r number;

begin

select max(rno)+1 into r from students;

insert into students values(r, n, c, f);

end;

**Exec from Oracle**:

declare

n varchar2(30) := 'prasad';

c varchar2(20) := 'java';

f number := 3500;

begin

reg\_student(n, c, f);

end;

**Exec from JAVA**:

package p4;

import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.SQLException;

import java.util.Scanner;

public class Program {

public static void main(String[] args)throws ClassNotFoundException, SQLException{

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "manager");

CallableStatement cst = con.prepareCall("{call reg\_student(?, ?, ?)}");

Scanner sc = new Scanner(System.in);

System.out.print("Enter Name: ");

String name = sc.nextLine();

System.out.print("Enter Course: ");

String course = sc.nextLine();

System.out.print("Enter Fees: ");

int fees = sc.nextInt();

cst.setString(1, name);

cst.setString(2, course);

cst.setInt(3, fees);

cst.execute();

System.out.println("record inserted");

con.close();

}

}

**OUT Parameter:**

create or replace procedure reg\_student(r out number, n varchar2, c varchar2, f number)

as

begin

select max(rno)+1 into r from students;

insert into students values(r, n, c, f);

end;

**Exec from Oracle:**

declare

r number;

n varchar2(30) := 'vaishnavi';

c varchar2(20) := 'php';

f number := 5000;

begin

reg\_student(r, n, c, f);

dbms\_output.put\_line('Rno '||r||' is created');

end;

**Exec from Java**:

package p4;

import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.SQLException;

import java.sql.Types;

import java.util.Scanner;

public class Program {

public static void main(String[] args)throws ClassNotFoundException, SQLException{

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "manager");

CallableStatement cst = con.prepareCall("{call reg\_student(?, ?, ?, ?)}");

Scanner sc = new Scanner(System.in);

System.out.print("Enter Name: ");

String name = sc.nextLine();

System.out.print("Enter Course: ");

String course = sc.nextLine();

System.out.print("Enter Fees: ");

int fees = sc.nextInt();

cst.registerOutParameter(1, Types.NUMERIC);

cst.setString(2, name);

cst.setString(3, course);

cst.setInt(4, fees);

cst.execute();

int rno = cst.getInt(1);

System.out.println("Rno "+rno+" is inserted");

con.close();

}

}

**PLSQL Functions:**

**Syntax:**

CREATE [OR REPLACE] FUNCTION function\_name

(parameter\_name IN|OUT|IN OUT data\_type, ….)

RETURN data\_type

AS|IS

Variable declaration

BEGIN

Executable commands

EXCEPTION

Exception handling statement(s)

END

**Example**:

create or replace function get\_fees(r number)

return number

as

f number;

begin

select fees into f from students where rno=r;

return f;

end;

**Exec from Oracle**:

declare

a number := 1;

b number;

begin

b := get\_fees(a);

dbms\_output.put\_line('Fees = '||b);

end;

---- or----

select get\_fees(1) from dual;

**Exec from Java**:

package p4;

import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.SQLException;

import java.sql.Types;

import java.util.Scanner;

public class Program {

public static void main(String[] args)throws ClassNotFoundException, SQLException{

Class.forName("oracle.jdbc.driver.OracleDriver");

Connection con = DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe", "system", "manager");

CallableStatement cst = con.prepareCall("{? = call get\_fees(?)}");

Scanner sc = new Scanner(System.in);

System.out.print("Enter Rno: ");

int rno = sc.nextInt();

cst.registerOutParameter(1, Types.NUMERIC);

cst.setInt(2, rno);

cst.execute();

int fees = cst.getInt(1);

System.out.println("Fees = "+fees);

con.close();

}

}