**Callable Statement:**

**General PL/SQL block syntax:**

DECLARE

Variable declaration;

BEGIN

Executable commands;

EXCEPTION

Exception handling statements;

END;

**Example**:

begin

dbms\_output.put\_line('Hello, Students');

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

end;

**Example**:

declare

name varchar2(30) := 'Krishna';

begin

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

end;

----------------or----------

DECLARE

rno number := 21;

name varchar2(30) := 'Krishna';

BEGIN

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

END;

**PROCEDURE**:

**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 statements;

END;

**Example 1:**

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

as

r number;

begin

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

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

end;

**EXECUTE FROM SQL**:

begin

reg\_student('mani', 'aws', 10000);

end;

**EXECUTE FROM JAVA**:

**package** p2;

**import** java.sql.CallableStatement;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**import** java.util.Scanner;

**public** **class** CallableDemo1 {

**public** **static** **void** main(String[] args) **throws** Exception{

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:**

**Example**:

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

as

begin

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

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

end;

**EXEC FROM ORACLE**:

declare

r number;

n varchar2(30) := 'ravi';

c varchar2(20) := 'DEVOPS';

f number := 25000;

begin

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

dbms\_output.put\_line('rno = '||r);

end;

**EXEC FROM JAVA**:

package p2;

import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Types;

import java.util.Scanner;

public class CallableDemo1 {

public static void main(String[] args) throws Exception{

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.INTEGER);

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 created");

con.close();

}

}

**IN OUT Parameter:**

create or replace procedure get\_fees(x in out number)

as

begin

select fees into x from student where rno=x;

end;

**Exec From Oracle:**

declare

a number:=12;

begin

get\_fees(a);

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

end;

**Exec From JAVA:**

import java.sql.\*;

import java.util.Scanner;

public class CallableDemo {

public static void main(String[] args) throws Exception{

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.INTEGER);

cst.setInt(1, rno);

cst.execute();

int fees = cst.getInt(1);

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

con.close();

}

}

**DROP PROCEDURE:**

drop procedure reg\_student;

**PLSQL FUNCTION:**

**Example**:

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

return number

as

r number;

begin

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

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

return r;

end;

**EXEC FROM ORACLE:**

declare

r number;

n varchar2(30) := 'dev';

c varchar2(20) := 'DEVOPS';

f number := 20000;

begin

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

dbms\_output.put\_line('rno = '||r);

end;

**EXEC FROM JAVA**:

package p2;

import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Types;

import java.util.Scanner;

public class CallableDemo1 {

public static void main(String[] args) throws Exception{

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.INTEGER);

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 created");

con.close();

}

}

Example:

create or replace function get\_fees(r number)

return number

as

f number;

begin

select fees into f from student where rno=r;

return f;

end;

**EXEC from JAVA**:

package p2;

import java.sql.CallableStatement;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Types;

import java.util.Scanner;

public class CallableDemo1 {

public static void main(String[] args) throws Exception{

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.INTEGER);

cst.setInt(2, rno);

cst.execute();

int fees = cst.getInt(1);

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

con.close();

}

}