

Ex. No 16

AIM: Creation of Packages

Packages

A package is a schema object that groups logically related PL/SQL types, variables, constants, subprograms, cursors, and exceptions. A package is compiled and stored in the database, where many applications can share its contents.

A package always has a **specification**, which declares the **public items** that can be referenced from outside the package.

If the public items include cursors or procedures or functions, then the package must also have a **body**. The body must define queries for public cursors and code for public functions and procedures. The body can also declare and define private items that cannot be referenced from outside the package, but are necessary for the internal workings of the package. You can change the body without changing the specification or the references to the public items; therefore, you can think of the package body as a black box.

Question 1

Create a PL/SQL Package with one procedure and one function.

Procedure - will take id and return the name corresponding to id as out parameter from Customer table

Function - will take id and return the annual salary of employee corresponding to id from Customer table

Ans:

We will be using the **Customer** table we had created in Ex No 14 and 15

-- package specification

```
CREATE OR REPLACE PACKAGE Customer_package AS
```

```
PROCEDURE Get_emp_name(c_id IN NUMBER, c_name OUT VARCHAR);
```

```
FUNCTION Get_annual_salary(c_id IN NUMBER) RETURN NUMBER;
```

```
END Customer_package;
```

```
/
```

-- package body

```
CREATE OR REPLACE PACKAGE BODY Customer_package AS
```

-- first procedure definition

```
PROCEDURE Get_emp_name(c_id IN NUMBER, c_name OUT VARCHAR)
```

```

IS
BEGIN
SELECT name INTO c_name from Customer where id = c_id;
END Get_emp_name;

-- second function definition
FUNCTION Get_annual_salary (c_id IN NUMBER)
RETURN NUMBER
IS
c_sal NUMBER :=0;
annual_sal NUMBER;
BEGIN
SELECT sal INTO c_sal FROM Customer WHERE id = c_id;
annual_sal := 12 * c_sal;
RETURN (annual_sal);
END;
END Customer_package;

/

-- Test program
declare
e_id number := &a1;
e_name varchar(10);
sal number :=0;
begin
    Customer_package.Get_emp_name(e_id, e_name);
    dbms_output.put_line('Customer corresponding to '||e_id || ' is '||
e_name);
    sal := Customer_package.Get_annual_salary(e_id);
    dbms_output.put_line('Annual Salary of '||e_name || ' is : '|| sal);
end;

```