

In Oracle SQL, functions and procedures are essential components of PL/SQL, Oracle's procedural extension for SQL. They allow you to encapsulate logic and reuse code.

Functions

- **Definition:** A function is a named PL/SQL block that returns a single value. It can be used in SQL statements.
- **Usage:** Typically used for computations, data transformations, or retrieving single values.
- **Syntax:**

```
CREATE OR REPLACE FUNCTION function_name (parameters)
```

```
RETURN return_data_type AS
```

```
BEGIN
```

```
-- Logic here
```

```
RETURN value;
```

```
END function_name;
```

Example plsql

Get_discount.txt

```
CREATE OR REPLACE FUNCTION get_discount(p_price IN NUMBER)
```

```
RETURN NUMBER AS
```

```
BEGIN
```

```
RETURN p_price * 0.10;
```

```
END get_discount;
```

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Tdiscount.txt

declare

no number;

amt number;

tamt number;

begin

amt:=&no;

tamt:=get_discount(amt);

dbms_output.put_line('Discount Amount : ' || tamt);

end;

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Procedures

- **Definition:** A procedure is a named PL/SQL block that performs a specific action but does not return a value. It can accept parameters.
- **Usage:** Commonly used for operations such as modifying data, performing transactions, or executing multiple SQL statements.
- **Syntax:**

```
CREATE OR REPLACE PROCEDURE procedure_name (parameters) AS
```

```
BEGIN
```

```
-- Logic here
```

```
END procedure_name;
```

EXAMPLE PROCEDURE PL SQL

```
CREATE TABLE Employees ( employee_id NUMBER PRIMARY KEY,  
first_name VARCHAR2(50), last_name VARCHAR2(50), salary NUMBER  
);
```

```
INSERT INTO Employees (employee_id, first_name, last_name,  
salary) VALUES (1, 'Arun', 'Kumar', 50000);
```

```
INSERT INTO Employees (employee_id, first_name, last_name,  
salary) VALUES (2, 'Jana', 'M', 60000);
```

```
INSERT INTO Employees (employee_id, first_name, last_name,  
salary) VALUES (3, 'Senthil', 'B ', 55000);
```

```
COMMIT;
```

```

CREATE OR REPLACE PROCEDURE GetEmployeeDetails ( p_employee_id
IN NUMBER, p_full_name OUT VARCHAR2, p_salary OUT NUMBER ) AS
BEGIN

SELECT first_name || ' ' || last_name, salary INTO p_full_name,
p_salary FROM Employees WHERE employee_id = p_employee_id;

EXCEPTION WHEN NO_DATA_FOUND THEN p_full_name:= 'Not Found';

p_salary := 0;

END GetEmployeeDetails;

/

```

```

DECLARE

v_full_name VARCHAR2(50);

v_salary NUMBER;

BEGIN

GetEmployeeDetails(1,v_full_name,v_salary);
DBMS_OUTPUT.PUT_LINE('Employee Name: ' || v_full_name);
DBMS_OUTPUT.PUT_LINE('Salary: ' || v_salary);

END;

/

```