EXPERIMENT 1

Title: Write query to create table Customer and order.

Objective: Create the following tables:

Customer

Column_name	Data type	Size	Constraint
SID	Varchar2	4	Primary Key
First_Name	Char	20	
Last_name	Char	20	

Orders

Column_name	Data type	Size	Constraint
Order_ID	Varchar2	4	Primary Key
Order_date	Char	20	
Customer_SID	Varchar2	20	Foreign Key
Amount	Number		Check > 20000

Pre-requisites:

- Knowledge of RDBMS and DBMS
- Sql queries
- DDL query

Query:

Create table Customer(sid varchar(4)primary key,First_Name char(20),Last_Name char(20));

Create table Orders2(Order_id varchar(4) primary key, Order_date char(20), Customer_sid varchar(20) references customer(sid), Amount int check(amount>20000));

Output:

```
create table customer(sid varchar(4)primary key,
                      First_Name char(20),
                      Last_Name char(20));
```

Output

SQL query successfully executed. However, the result set is empty.

```
create table Orders2(Order_id varchar(4)primary key,
                    Order_date char(20),
                    Customer_sid varchar(20) references customer(sid),
                     Amount int check(amount>20000));
```

Output

SQL query successfully executed. However, the result set is empty.

EXPERIMENT 2

Title:Write a query to insert records 5 records in Customer and Order table.

Objective: Insert five records for each table

Pre-requisites:

- Knowledge of SQL queries
- DDL query

Query:

Customer values

```
insert into customer values('1', 'Arun', 'Kumar');
insert into customer values('2', 'Raja', 'Rogi');
insert into customer values('3', 'Sumit', 'Kumar');
insert into customer values('4', 'Jen', 'Joby');
insert into customer values('5', 'Chinu', 'Gandhi');
```

Order values

```
insert into Orders2 values('101', '20-10-2012', '1', 25000);

insert into Orders2 values('A12', '10-09-2024', '5',30000);

insert into Orders2 values('1MK', '25-12-2019','3',55000);

insert into Orders2 values('Gh3', '20-05-2025', '4', 26000);

insert into Orders2 values('KL2', '12-10-2010', '2',25000);
```

Output:

```
insert into customer values('1','Arun','Kumar');
insert into customer values('2','Raja','Rogi');
insert into customer values('3','Sumit','Kumar');
insert into customer values('4','Jen','Joby');
insert into customer values('5','Chinu','Gandhi');
```

Output

SQL query successfully executed. However, the result set is empty.

```
insert into Orders2 values('101','20-10-2012','1',25000);
insert into Orders2 values('A12','10-09-2024','5',30000);
insert into Orders2 values('1MK','25-12-2019','3',55000);
insert into Orders2 values('Gh3','20-05-2025','4',26000);
insert into Orders2 values('KL2','12-10-2010','2',25000);
```

Output

SQL query successfully executed. However, the result set is empty.

EXPERIMENT 3

Title: Write a query to show all records in table along with their amounts.

Objective: List the details of the customers along with the amount.

Pre-requisites:

- SQL queries
- DML commands

Query:

```
SELECT customer.sid,customer.First_Name,customer.Last_Name,
Orders2.Amount FROM customer
Inner join Orders2 on customer.sid = Orders2.customer_sid;
```

Output:

Output

sid	First_Name	Last_Name	Amount
1	Arun	Kumar	25000
5	Chinu	Gandhi	30000
3	Sumit	Kumar	55000
4	Jen	Joby	26000
2	Raja	Rogi	25000

EXPERIMENT 4

Title: Write a query to show records of customer name's end with a

Objective: List the customers whose names end with "a".

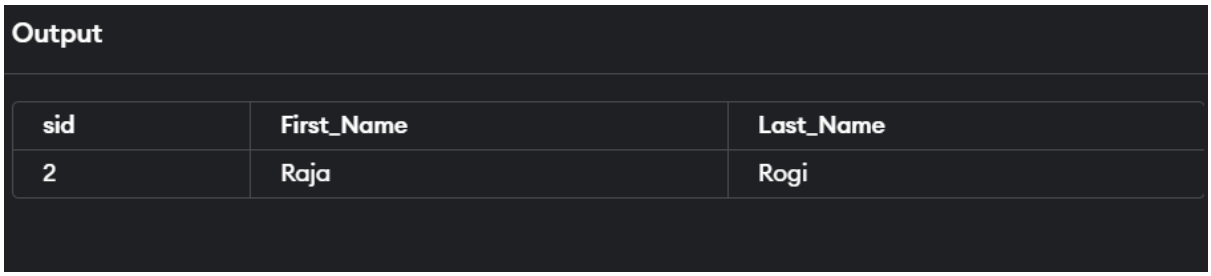
Pre-requisites:

- SQL queries
- DML queries

Query:

select * from Customer where First_Name like"%a";

Output:



Output

sid	First_Name	Last_Name
2	Raja	Rogi

EXPERIMENT 5

Title: Write a query to show records of orders where amount is 21000 and 30000.

Objective: List the orders where amount is between 21000 and 30000

Pre-requisites:

- SQl queries
- DML queries

Query:

select * from Orders2 where amount between “21000” and “30000”;

Output:

Output

Order_id	Order_date	Customer_sid	Amount
101	20-10-2012	1	25000
A12	10-09-2024	5	30000
Gh3	20-05-2025	4	26000
KL2	12-10-2010	2	25000

EXPERIMENT 6

Title: Write sql query to show records where amount is increased by 500.

Objective: List the orders where amount is increased by 500 and replace with name “new amount”.

Pre-requisites:

- SQL queries
- DML queries

Query:

```
select  *,Amount as 'New amount' from Orders2;
```

Output:

Output

Order_id	Order_date	Customer_sid	Amount	New amount
101	20-10-2012	1	25500	25500
A12	10-09-2024	5	31000	31000
1MK	25-12-2019	3	55500	55500
Gh3	20-05-2025	4	27000	27000
KL2	12-10-2010	2	25500	25500

EXPERIMENT 7

Title: Write sql query to show records with their order id and total amount of order done by that order id.

Objective: Display the order_id and total amount of orders

Pre-requisites:

- SQL query
- DML queries

Query:

```
select Order_id,total(Amount) from Orders2 group by Customer_sid;
```

Output:

Output

Order_id	total(Amount)
101	25000
KL2	25000
1MK	55000
Gh3	26000
A12	30000

EXPERIMENT 8

Title: Write a sql query to show records where amount is more than 15000.

Objective: Calculate the total amount of orders that has more than 15000.

Pre-requisites:

- SQL query
- DML queries

Query:

Select total(Amount) from Orders2 where amount>15000 group by Customer_sid;

Output:

Output

total(Amount)
25000
25000
55000
26000
30000

EXPERIMENT 9

Title: Write query to create table Students and Student1.

Objective: Create the following tables

Student

Column_name	Data type	Size	Constraint
RollNo	Varchar2	20	Primary Key
Name	Char	20	
Class	Varchar2	20	
Marks	Number	6,2	

Student1

Column_name	Data type	Size	Constraint
R_No	Varchar2	20	Primary Key
Name	Char	20	
Class	Varchar2	20	
Marks	Number	6,2	

Pre-requisites:

- SQL query
- DDL queries

Query:

```
create table Student(Roll_no varchar(20)primary key,Name char(20),Class varchar(20),Marks int);

create table Student1(R_No varchar(20)primary key,Name char(20),Class varchar(20),Marks int);
```

Output:

```
create table Student(Roll_no varchar(20)primary key,Name char(20),Class varchar(20),Marks
int);

create table Student1(R_No varchar(20)primary key,Name char(20),Class varchar(20),Marks int);
```

Output

SQL query successfully executed. However, the result set is empty.

EXPERIMENT 10

Title: Write sql query to display records from student and student1 table.

Objective: Display all the contents of student and student1 using union clause.

Pre-requisites:

- SQL query
- DML queries

Query:

```
select * from Student
UNION
select * from Student1;
```

Output:

Output

Roll_no	Name	Class	Marks
89F	sadhana	E	82
AX3	krishna	C	95
D89	rohan	C	100
L09	zoro	A	96
P56	dinesh	E	82
Q90	maya	B	45
S90	sanji	A	96
W78	kris	B	45

EXPERIMENT 11

Title: Write sql query to show records common in Student and Student1 table.

Objective: Find out the intersection of student and student1 tables.

Pre-requisites:

- SQL query
- DML queries

Query:

```
select * from Student

INTERSECT

select * from Student1;
```

Output:

Output

Roll_no	Name	Class	Marks
AX3	krishna	C	95
D89	rohan	C	100

EXPERIMENT 12

Title: write sql queries to show records using different joins.

Objective: Display the names of student and student1 tables using left and inner join.

Pre-requisites:

- SQL query
- DML queries
- JOINS

Query:

LEFT JOIN

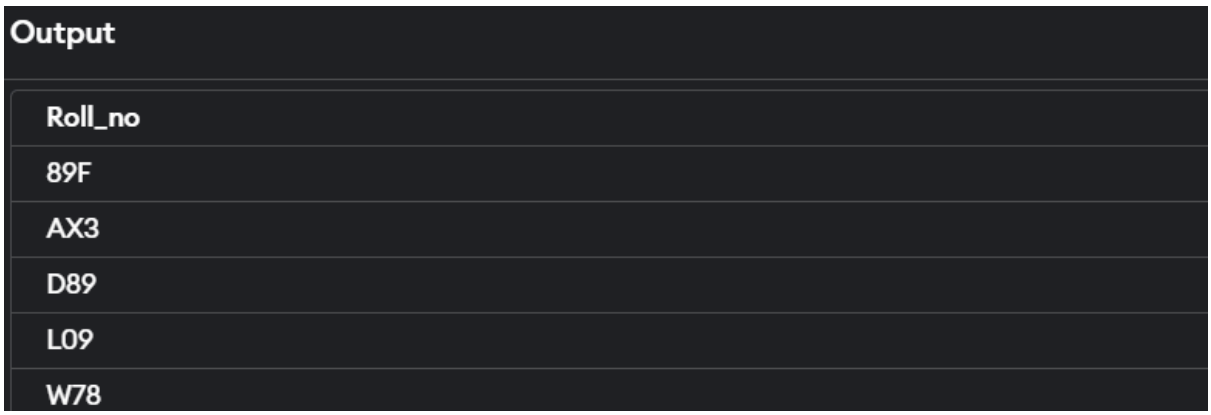
```
SELECT Roll_no FROM Student

LEFT JOIN Student1

ON Student.Roll_no = Student1.R_No;
```

INNER JOIN

```
SELECT Roll_no FROM Student

INNER JOIN Student1

ON Student.Roll_no = Student1.R_No;
```

Output:

LEFT JOIN



INNER JOIN

Output

Roll_no
AX3
D89

EXPERIMENT 13

Title: PL/SQL queries to calculate

Objective: Write a PL/SQL block to calculate total salary of employee having employee number 100.

Pre-requisites:

- SQl query
- PL/SQL query

Query:

```
DECLARE
   num1 NUMBER;
   num2 NUMBER;
   num3 NUMBER;
   greatest NUMBER;
BEGIN
   num1 := 15;
   num2 := 25;
   num3 := 10;
   IF (num1 >= num2 AND num1 >= num3) THEN
     greatest := num1;
   ELSIF (num2 >= num1 AND num2 >= num3) THEN
      greatest := num2;
   ELSE
       greatest := num3;
   END IF;
  DBMS_OUTPUT.PUT_LINE('The greatest number is: ' || greatest);
END;
```

Output:

```
Output:

The greatest number is: 25
```

EXPERIMENT 14

Title: Write pl/sql query to show number from 1 to n

Objective: Write a PL/SQL code to print the numbers from 1 to n.

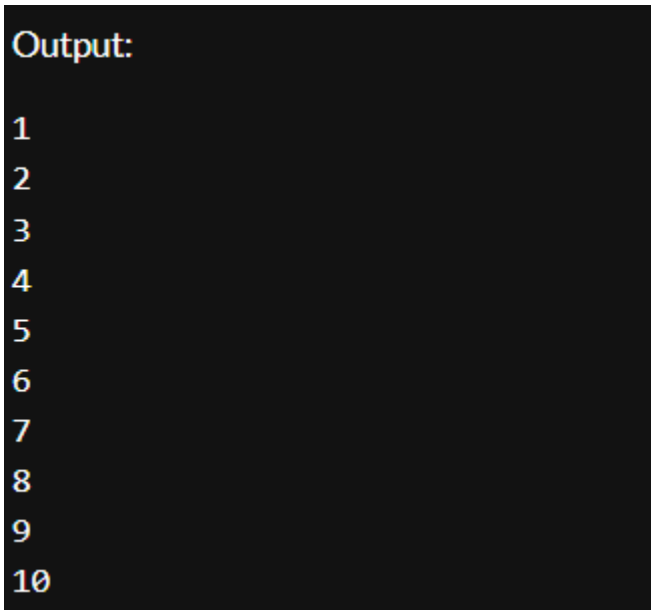
Pre-requisites:

- SQL query
- PL/SQL queries

Query:

```
DECLARE
   n NUMBER;
BEGIN
   n := 10;
   FOR i IN 1..n LOOP
      DBMS_OUTPUT.PUT_LINE(i);
   END LOOP;
END;
```

Output:



EXPERIMENT 15

Title: PL/SQL query to for reversing string.

Objective: Write a PL/SQL code to reverse a string using for loop.

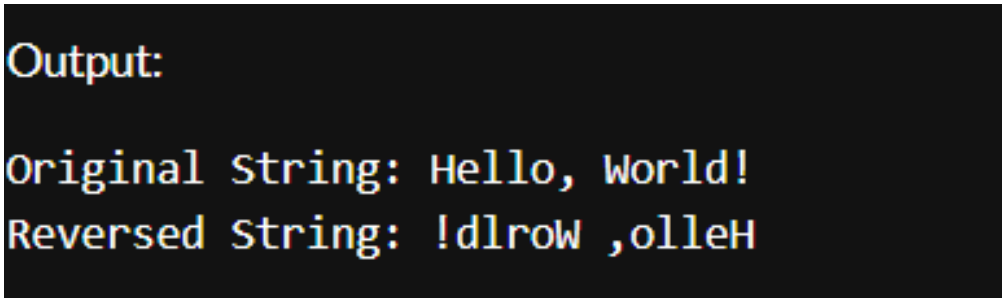
Pre-requisites:

- SQL query
- PL/SQL queries

Query:

```
DECLARE
   original_string VARCHAR2(100) := 'Hello, World!';
   reversed_string VARCHAR2(100) := '';
   string_length   INTEGER;
BEGIN
   string_length := LENGTH(original_string);
      FOR i IN REVERSE 1 .. string_length LOOP
      reversed_string := reversed_string || SUBSTR(original_string, i, 1);
   END LOOP;
   DBMS_OUTPUT.PUT_LINE('Original String: ' || original_string);
   DBMS_OUTPUT.PUT_LINE('Reversed String: ' || reversed_string);
END;
```

Output:



EXPERIMENT 16

Title:PL/SQL command for finding factorial of number.

Objective:. Write a PL/SQL query to find factorial of a number.

Pre-requisites:

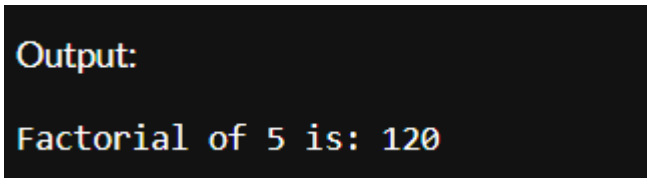
- SQL query
- PL/SQL query

PL/SQL queries

Query:

```
DECLARE
   num       INTEGER := 5;
   factorial INTEGER := 1;
BEGIN
   FOR i IN 1 .. num LOOP
      factorial := factorial * i;
   END LOOP;
   DBMS_OUTPUT.PUT_LINE('Factorial of ' || num || ' is: ' || factorial);
END;
```

Output:



EXPERIMENT 17

Title: PL/SQL command for finding power of number.

Objective: Write a PL/SQL query to find power of a number.

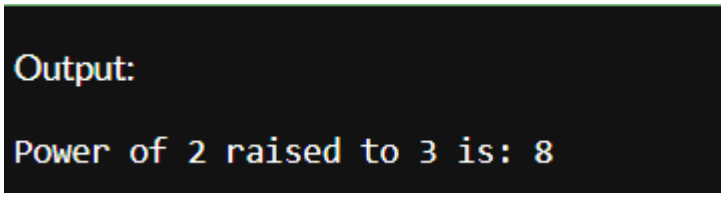
Pre-requisites:

- SQL query
- PL/SQL query

Query:

```
DECLARE
   base      NUMBER := 2;
   exponent   INTEGER := 3;
   result     NUMBER := 1;
BEGIN
   FOR i IN 1 .. exponent LOOP
      result := result * base;
   END LOOP;
   DBMS_OUTPUT.PUT_LINE('Power of ' || base || ' raised to ' || exponent || ' is: ' || result);
END;
```

Output:



EXERCISE 18

Title: PL/SQL command for finding reverse of string.

Objective: Write a PL/SQL code to reverse a string using for loop.

Pre-requisites:

- SQL query
- PL/SQL query

QUERY:

```
SET SERVEROUTPUT ON;


DECLARE
   original_string VARCHAR2(100) := 'Hello, World!'; -- Input string
   reversed_string VARCHAR2(100) := '';              -- Variable to hold the reversed string
   string_length   INTEGER;                          -- Length of the original string
BEGIN
   -- Get the length of the original string
   string_length := LENGTH(original_string);

   -- Loop through the original string in reverse order
   FOR i IN REVERSE 1..string_length LOOP
      -- Concatenate each character to the reversed string
      reversed_string := reversed_string || SUBSTR(original_string, i, 1);
   END LOOP;

   -- Output the reversed string
   DBMS_OUTPUT.PUT_LINE('Original String: ' || original_string);
```

```
    DBMS_OUTPUT.PUT_LINE('Reversed String: ' || reversed_string);
END;
/
```

OUTPUT:

```
Statement processed.
Original String: Hello, World!
Reversed String: !dlroW ,olleH
```

EXERCISE 19

Title: PL/SQL command for finding sum of number.

Objective: Write a PL/SQL code to find suum of n numbers.

Pre-requisites:

- SQL query
- PL/SQL query

QUERY:

```
DECLARE
   n NUMBER; -- Number of elements to sum
   num NUMBER; -- Variable to hold each input number
   total_sum NUMBER := 0; -- Variable to hold the total sum
BEGIN
   -- Prompt for the number of elements
   DBMS_OUTPUT.PUT_LINE('Enter the number of elements to sum:');
   -- Assume n is provided via some input mechanism, such as a substitution variable or input form
   -- For this example, we can assign it directly, or you can modify this part to accept input
   n := 5; -- Change this value as needed

   FOR i IN 1..n LOOP
      -- Prompt for each element - in real applications, you would capture input dynamically
      -- Here, for demonstration, we can simulate input:
      DBMS_OUTPUT.PUT_LINE('Enter number ' || i || ':');

      -- Replace this with your input mechanism
      -- For example purposes, we're just prompting and assuming fixed values:
      num := i * 10; -- This is just a placeholder, replace it with actual input capture
```

```
        -- Add the number to the total sum
        total_sum := total_sum + num;
    END LOOP;

    -- Output the result
    DBMS_OUTPUT.PUT_LINE('The total sum of the ' || n || ' numbers is: ' || total_sum);
EXCEPTION
    WHEN OTHERS THEN
        DBMS_OUTPUT.PUT_LINE('An error occurred: ' || SQLERRM);
END;
/
```

OUTPUT:

```
Statement processed.
Enter the number of elements to sum:
Enter number 1:
Enter number 2:
Enter number 3:
Enter number 4:
Enter number 5:
The total sum of the 5 numbers is: 150
```

EXERCISE 20

Title: PL/SQL command for display the empno, ename, job of employees of department number 10

Objective: Write a PL/SQL code to consider a PL/SQL code to display the empno, ename, job of employees of department number 10

Pre-requisites:

- SQL query
- PL/SQL query

QUERY

```
SET SERVEROUTPUT ON;


DECLARE
   CURSOR emp_cursor IS
      SELECT empno, ename, job
      FROM employees
      WHERE deptno = 10; -- Filter for department number 10

   emp_record emp_cursor%ROWTYPE; -- Record type to hold cursor data
BEGIN
   -- Open the cursor and fetch each employee record
   OPEN emp_cursor;

   LOOP
      FETCH emp_cursor INTO emp_record;
      EXIT WHEN emp_cursor%NOTFOUND; -- Exit loop when no more records
```

```
    -- Display the employee details
    DBMS_OUTPUT.PUT_LINE('Emp No: ' || emp_record.empno ||
                         ', Name: ' || emp_record.ename ||
                         ', Job: ' || emp_record.job);
  END LOOP;

  -- Close the cursor
  CLOSE emp_cursor;
END;
/
```

Output:

EMPLOYEE2

empno	ename	salary
101	John	50000
102	Alice	60000
103	Bob	75000
104	Charlie	80000
105	David	55000
106	Eva	70000

Output

empno	ename	salary
104	Charlie	80000
103	Bob	75000
106	Eva	70000
102	Alice	60000
105	David	55000

EXERCISE 21

Title: To Consider a PL/SQL procedure that accepts 2 numbers & return addition, subtraction, multiplication & division of two numbers using stored procedure AND local procedure.

Objective: To Consider a PL/SQL procedure that accepts 2 numbers & return addition,subtraction, multiplication & division of two numbers using stored procedure AND local procedure.

Pre-requisites:

- SQL query
- PL/SQL query

QUERY

```
SET SERVEROUTPUT ON;


CREATE OR REPLACE PROCEDURE calculate_operations (
   p_num1 IN NUMBER,
   p_num2 IN NUMBER,
   p_add OUT NUMBER,
   p_sub OUT NUMBER,
   p_mul OUT NUMBER,
   p_div OUT NUMBER
) AS
   -- Local procedure to perform calculations
   PROCEDURE perform_calculations (
      num1 IN NUMBER,
      num2 IN NUMBER,
      add_result OUT NUMBER,
      sub_result OUT NUMBER,
      mul_result OUT NUMBER,
```

```
    div_result OUT NUMBER
  ) IS
  BEGIN
    add_result := num1 + num2;
    sub_result := num1 - num2;
    mul_result := num1 * num2;

    -- Check for division by zero
    IF num2 != 0 THEN
      div_result := num1 / num2;
    ELSE
      div_result := NULL; -- or you can raise an exception
    END IF;
  END perform_calculations;

BEGIN
  -- Call the local procedure to perform calculations
  perform_calculations(p_num1, p_num2, p_add, p_sub, p_mul, p_div);
END calculate_operations;
/
```

Output:

```
Procedure created.
```

Exercise 22

Title: **To Write a PL/SQL block to show the use of NO_DATA FOUND exception**

Objective: **To Write a PL/SQL block to show the use of NO_DATA FOUND exception**

Pre-requisites:

- SQL query
- PL/SQL query

QUERY

```
DECLARE
   v_employee_id NUMBER := 100; -- Assuming we are looking for an employee with ID 100
   v_first_name  VARCHAR2(50);
   v_last_name   VARCHAR2(50);
BEGIN
   -- Attempt to fetch employee details
   SELECT first_name, last_name
   INTO v_first_name, v_last_name
   FROM employees
   WHERE employee_id = v_employee_id;

   -- Display the employee details if found
   DBMS_OUTPUT.PUT_LINE('Employee Found: ' || v_first_name || ' ' || v_last_name);

EXCEPTION
   WHEN NO_DATA_FOUND THEN
      DBMS_OUTPUT.PUT_LINE('No employee found with ID ' || v_employee_id);
END;
```

Output

EMPLOYEE3

empno	ename	salary
101	John	50000
102	Alice	60000
103	Bob	75000

Output

result
NO_DATA_FOUND: No employee found with the given employee number

Exercise 22

Title: To Write a PL/SQL block to show use of local function

Objective: To Consider a PL/SQL code that accepts 2 numbers & return addition, subtraction, multiplication & division of two numbers using stored functions and local function.

Pre-requisites:

- SQL query
- PL/SQL query

QUERY

```
CREATE OR REPLACE PACKAGE math_operations AS

   FUNCTION add_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER;

   FUNCTION subtract_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER;

   FUNCTION multiply_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER;

   FUNCTION divide_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER;

END math_operations;

/

CREATE OR REPLACE PACKAGE BODY math_operations AS


   FUNCTION add_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER IS

   BEGIN

      RETURN num1 + num2;

   END add_numbers;


   FUNCTION subtract_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER IS

   BEGIN
```

```
    RETURN num1 - num2;
  END subtract_numbers;

  FUNCTION multiply_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER IS
  BEGIN
    RETURN num1 * num2;
  END multiply_numbers;

  FUNCTION divide_numbers(num1 NUMBER, num2 NUMBER) RETURN
NUMBER IS
  BEGIN
    IF num2 = 0 THEN
      RAISE_APPLICATION_ERROR(-20001, 'Division by zero is not allowed');
    END IF;
    RETURN num1 / num2;
  END divide_numbers;

END math_operations;
/
DECLARE
  num1 NUMBER;
  num2 NUMBER;
  result_add NUMBER;
  result_subtract NUMBER;
  result_multiply NUMBER;
  result_divide NUMBER;
```

```
BEGIN
   -- Accepting two numbers; these values can be taken from user input or
hardcoded
   num1 := 10;  -- Example value
   num2 := 5;   -- Example value

   -- Calling the stored functions from the package
   result_add := math_operations.add_numbers(num1, num2);
   result_subtract := math_operations.subtract_numbers(num1, num2);
   result_multiply := math_operations.multiply_numbers(num1, num2);

   -- Handle division with exception
   BEGIN
      result_divide := math_operations.divide_numbers(num1, num2);
   EXCEPTION
      WHEN OTHERS THEN
         DBMS_OUTPUT.PUT_LINE(SQLERRM);
   END;

   -- Display the results
   DBMS_OUTPUT.PUT_LINE('Addition: ' || result_add);
   DBMS_OUTPUT.PUT_LINE('Subtraction: ' || result_subtract);
   DBMS_OUTPUT.PUT_LINE('Multiplication: ' || result_multiply);
   DBMS_OUTPUT.PUT_LINE('Division: ' || result_divide);
END;
/
```

Output

```
Statement processed.
Addition: 15
Subtraction: 5
Multiplication: 50
Division: 2
```

Exercise 23

Title: **To Write a PL/SQL block to show use of TOO MANY ROWS**

Objective: **To Write a PL/SQL block to show the use of TOO_MANY ROWS exception**

Pre-requisites:

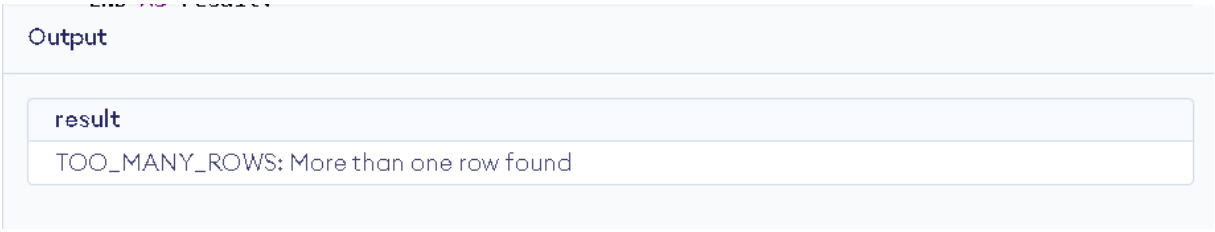
- SQL query
- PL/SQL query

Query

```
SET SERVEROUTPUT ON;


DECLARE
   v_deptno NUMBER := 10; -- Change this to a department number that has multiple employees
   v_ename VARCHAR2(100);
BEGIN
   -- Attempt to select the employee name based on department number
   SELECT ename INTO v_ename
   FROM employees
   WHERE deptno = v_deptno;


   -- If the employee is found, display the name
   DBMS_OUTPUT.PUT_LINE('Employee Name: ' || v_ename);


EXCEPTION
   WHEN TOO_MANY_ROWS THEN
      -- Handle the exception when too many rows are found
      DBMS_OUTPUT.PUT_LINE('Error: More than one employee found in department number: ' || v_deptno);
   WHEN NO_DATA_FOUND THEN
```

```
    -- Handle the exception when no data is found
    DBMS_OUTPUT.PUT_LINE('No employee found in department number: '
|| v_deptno);
  WHEN OTHERS THEN
    -- Handle any other exceptions
    DBMS_OUTPUT.PUT_LINE('An unexpected error occurred: ' || SQLERRM);
END;
/
```

Output



Exercise 24

Title: **To Write a PL/SQL block to show use of ZERO DIVIDE**

Objective: **Write a PL/SQL block to show the use of ZERO_DIVIDE exception**

Pre-requisites:

- SQL query
- PL/SQL query

Query

```
DECLARE
   numerator NUMBER := 10;
   denominator NUMBER := 0; -- Set this to 0 to trigger the ZERO_DIVIDE exception
   result NUMBER;
BEGIN
   -- Attempt to perform the division
   result := numerator / denominator;
   DBMS_OUTPUT.PUT_LINE('Result: ' || result);
EXCEPTION
   WHEN ZERO_DIVIDE THEN
      DBMS_OUTPUT.PUT_LINE('Error: Division by zero is not allowed.');
   WHEN OTHERS THEN
      DBMS_OUTPUT.PUT_LINE('An unexpected error occurred: ' || SQLERRM);
```

END;

Output

```
Statement processed.
Error: Division by zero is not allowed.
```

Exercise 25

Title: To Write a PL/SQL block to show audit of table.

Objective: To create a trigger on the emp table, which store the empno& operation in the table auditor for each operation i.e. Insert, Update & Delete.

Pre-requisites:

- SQL query
- PL/SQL query

Query

```
CREATE TABLE auditor (
   audit_id NUMBER GENERATED BY DEFAULT AS IDENTITY PRIMARY KEY,
   empno NUMBER,
   operation VARCHAR2(10),
   operation_time TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
CREATE OR REPLACE TRIGGER trg_audit_emp
AFTER INSERT OR UPDATE OR DELETE ON emp
FOR EACH ROW
BEGIN
   IF INSERTING THEN
      INSERT INTO auditor (empno, operation)
      VALUES (:NEW.empno, 'INSERT');
   ELSIF UPDATING THEN
      INSERT INTO auditor (empno, operation)
      VALUES (:NEW.empno, 'UPDATE');
   ELSIF DELETING THEN
      INSERT INTO auditor (empno, operation)
```

```
        VALUES (:OLD.empno, 'DELETE');
    END IF;
END trg_audit_emp;
/
-- Insert a new employee
INSERT INTO emp (empno, ename, job, mgr, hiredate, sal, comm, deptno)
VALUES (1, 'John Doe', 'Developer', NULL, SYSDATE, 50000, NULL, 10);

-- Update the employee
UPDATE emp
SET sal = 55000
WHERE empno = 1;

-- Delete the employee
DELETE FROM emp
WHERE empno = 1;

-- Check the auditor table
SELECT * FROM auditor;
```

Output

```
AUDIT_ID | EMPNO | OPERATION | OPERATION_TIME
--------- | ----- | --------- | -------------------------
1         | 1     | INSERT    | 2023-10-01 10:00:00
2         | 1     | UPDATE    | 2023-10-01 10:05:00
3         | 1     | DELETE    | 2023-10-01 10:10:00
```

Exercise 26

Title: **To Write a PL/SQL block to no operation code.**

Objective: **To create a trigger so that no operation can be performed on emp table**

Pre-requisites:

- SQL query
- PL/SQL query

Query

```
CREATE OR REPLACE TRIGGER trg_prevent_emp_operations

BEFORE INSERT OR UPDATE OR DELETE ON emp

BEGIN

   RAISE_APPLICATION_ERROR(-20001, 'No operations are allowed on the emp table.');

END trg_prevent_emp_operations;

/

-- Attempt to insert a new employee

INSERT INTO emp (empno, ename, job, mgr, hiredate, sal, comm, deptno)

VALUES (1, 'John Doe', 'Developer', NULL, SYSDATE, 50000, NULL, 10);
```

```
ORA-20001: No operations are allowed on the emp table.
ORA-06512: at "YOUR_SCHEMA.TRG_PREVENT_EMP_OPERATIONS", line 2
ORA-04088: error during execution of trigger 'YOUR_SCHEMA.TRG_PREVEN
```