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Lab 10

Ques1: Implement the experiments of lab 9 using functions and procedures. Write a PL/SQL code to accept the value of A, B & C display which is greater.

SQL Worksheet

```
CREATE OR REPLACE FUNCTION find_greatest (A NUMBER, B NUMBER, C NUMBER)
RETURN NUMBER
AS
   greatest_value NUMBER;
BEGIN
   IF A > B AND A > C THEN
      greatest_value := A;
   ELSIF B > A AND B > C THEN
      greatest_value := B;
   ELSE
      greatest_value := C;
   END IF;

   RETURN greatest_value;
END;
/

CREATE OR REPLACE PROCEDURE display_greatest (A NUMBER, B NUMBER, C NUMBER)
AS
   greatest_value NUMBER;
BEGIN
   greatest_value := find_greatest(A, B, C);
```

```
   DBMS_OUTPUT.PUT_LINE('The greatest value among ' || A || ', ' || B || ', and ' || C || ' is ' || greatest_value);
END;
/

-- Example usage:
BEGIN
   display_greatest(10, 20, 30);
END;
```

```
nction created.

ocedure created.

atement processed.
e greatest value among 10, 20, and 30 is 30
```

Ques2: Using PL/SQL Statements create a simple loop that display message "Welcome to PL/SQL Programming" 20 times.

Live SQL

SQL Worksheet

```
-- Function to find the greatest of three numbers
CREATE OR REPLACE FUNCTION greatest_number(a IN NUMBER, b IN NUMBER, c IN NUMBER)
RETURN NUMBER
IS
    max_num NUMBER;
BEGIN
    IF a > b AND a > c THEN
        max_num := a;
    ELSIF b > a AND b > c THEN
        max_num := b;
    ELSE
        max_num := c;
    END IF;
    RETURN max_num;
END;
/
-- Procedure to display "Welcome to PL/SQL Programming" 20 times
CREATE OR REPLACE PROCEDURE welcome_message
IS
BEGIN
    FOR i IN 1..20 LOOP
        DBMS_OUTPUT.PUT_LINE('Welcome to PL/SQL Programming');
    END LOOP;
END;
```

```
unction created.
```

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```
unction created.

rocedure created.
```

Ques3: Write a PL/SQL code block to find the factorial of a number.

SQL Worksheet

```
CREATE OR REPLACE FUNCTION factorial(n NUMBER) RETURN NUMBER
IS
   result NUMBER := 1;
BEGIN
   FOR i IN 1..n LOOP
      result := result * i;
   END LOOP;

   RETURN result;
END;
/

-- Example usage:
DECLARE
   n NUMBER := 5; -- Change this to the desired number
BEGIN
   DBMS_OUTPUT.PUT_LINE('The factorial of ' || n || ' is ' || factorial(n));
END;
/
```

```
unction created.

tatement processed.
he factorial of 5 is 120
```

Ques4: Write a PL/SQL program to generate Fibonacci series.

SQL Worksheet

```
CREATE OR REPLACE FUNCTION fibonacci(n IN NUMBER) RETURN NUMBER IS
   a NUMBER := 0;
   b NUMBER := 1;
   c NUMBER;
   result NUMBER := 0;
BEGIN
   IF n = 1 THEN
      result := a;
   ELSIF n = 2 THEN
      result := b;
   ELSE
      FOR i IN 3..n LOOP
         c := a + b;
         a := b;
         b := c;
      END LOOP;

      result := b;
   END IF;

   RETURN result;
END;
```

```
eries:
```

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Ques5:Write a PL/SQL code to fund the sum of first N numbers

Live SQL

SQL Worksheet

```
DECLARE
sumVal NUMBER;
n NUMBER;
i NUMBER;

FUNCTION Findmax(n IN NUMBER)
   RETURN NUMBER
IS
   sums NUMBER := 0;
BEGIN
   FOR i IN 1..n
   LOOP
   sums := sums + i*(i+1)/2;
   END LOOP;
   RETURN sums;
END;
BEGIN
   n := 8;
   sumVal := findmax(n);
   dbms_output.Put_line('Sum of natural numbers is ' || sumVal);
END;

```

```
Statement processed.
Sum of natural numbers is 120
```