CSE2007 DBMS LAB

SLOT: L39+L40
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EXPERIMENT NO.-8

1.

a. Write a PL/SQL program to swap two numbers.

```
set serveroutput on
DECLARE
num1 NUMBER := 5;
num2 NUMBER := 7;
temp NUMBER;
BEGIN
DBMS_OUTPUT.PUT_LINE('Before swapping: num1 = ' || num1 || ', num2 = ' || num2);
temp := num1;
num1 := num2;
num2 := temp;
DBMS_OUTPUT.PUT_LINE('After swapping: num1 = ' || num1 || ', num2 = ' || num2);
END;
/
```

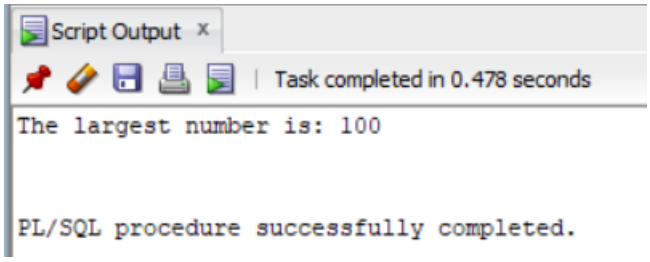
```
Before swapping: num1 = 5, num2 = 7
After swapping: num1 = 7, num2 = 5


PL/SQL procedure successfully completed.
```

b. Write a PL/SQL program to find the largest of three numbers.

```
DECLARE
num1 NUMBER := 5;
num2 NUMBER := 100;
num3 NUMBER := 50;
largest NUMBER;
```

```
BEGIN
largest := num1;
IF num2 > largest THEN
   largest := num2;
END IF;
IF num3 > largest THEN
   largest := num3;
END IF;
DBMS_OUTPUT.PUT_LINE('The largest number is: ' || largest);
END;
/
```

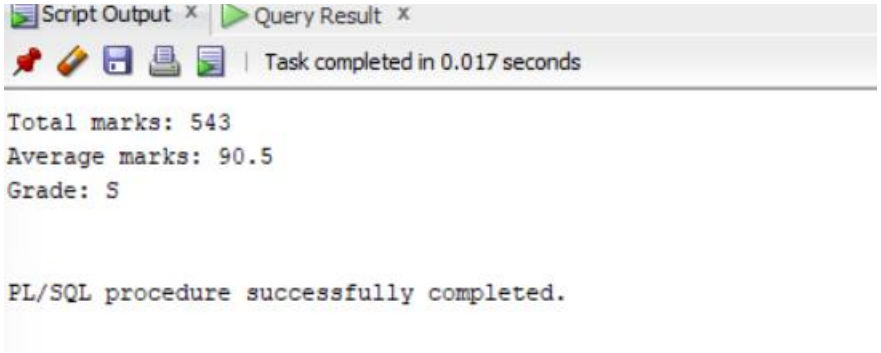


2.

a.Write a PL/SQL program to find the total and average of 6 subjects and display the grade.

```
DECLARE
s1 number :=89;
s2 number :=85;
s3 number :=95;
s4 number :=99;
s5 number :=81;
s6 number :=94;
total NUMBER;
average NUMBER;
BEGIN
total := s1+s2+s3+s4+s5+s6;
average := total / 6;
DBMS_OUTPUT.PUT_LINE('Total marks: ' || total);
```

```
DBMS_OUTPUT.PUT_LINE('Average marks: ' || average);
IF average >= 90 THEN
   DBMS_OUTPUT.PUT_LINE('Grade: S');
ELSIF average >= 80 THEN
   DBMS_OUTPUT.PUT_LINE('Grade: A');
ELSIF average >= 70 THEN
   DBMS_OUTPUT.PUT_LINE('Grade: B');
ELSIF average >= 60 THEN
   DBMS_OUTPUT.PUT_LINE('Grade: C');
ELSE
   DBMS_OUTPUT.PUT_LINE('Grade: D');
END IF;
END;
/
```



b. Write a PL/SQL program to print a student information along with his marks and grade and also update the grade in the student database. Input to be fetched from a student table.

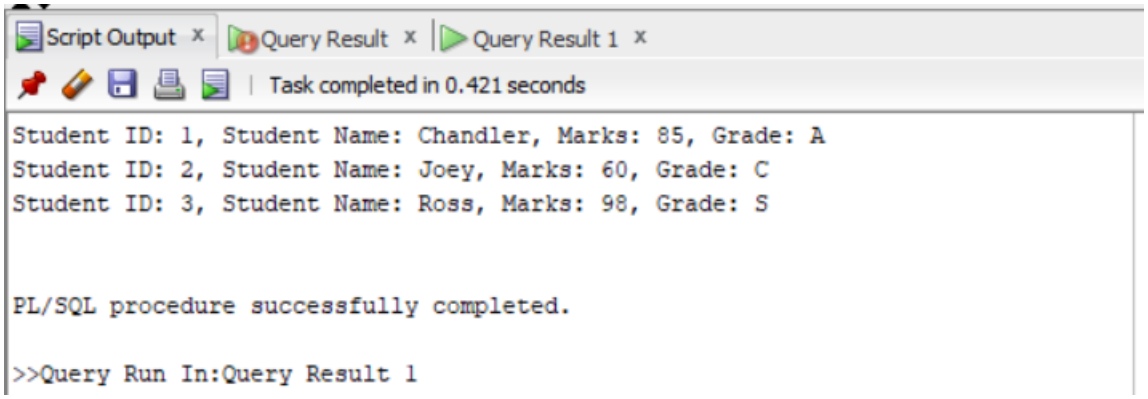
Initial Table-

	STUDENT_ID	STUDENT_NAME	MARKS	GRADE
1	1	Chandler	85	A
2	2	Joey	60	D
3	3	Ross	98	S

```
SET SERVEROUTPUT ON;

DECLARE
   v_student_id student1.student_id%TYPE;
```

```
    v_student_name student1.student_name%TYPE;
    v_marks student1.marks%TYPE;
    v_grade student1.grade%TYPE;
BEGIN
    FOR student_rec IN (SELECT * FROM student1) LOOP
        v_student_id := student_rec.student_id;
        v_student_name := student_rec.student_name;
        v_marks := student_rec.marks;
        v_grade := student_rec.grade;
        DBMS_OUTPUT.PUT_LINE('Student ID: ' || v_student_id || ', Student Name: ' ||
v_student_name || ', Marks: ' || v_marks || ', Grade: ' || v_grade)
        IF v_marks >= 90 THEN
            v_grade := 'S'; -- Outstanding
        ELSIF v_marks >= 80 THEN
            v_grade := 'A'; -- Excellent
        ELSIF v_marks >= 70 THEN
            v_grade := 'B'; -- Good
        ELSIF v_marks >= 60 THEN
            v_grade := 'C'; -- Satisfactory
        ELSE
            v_grade := 'D'; -- Needs improvement
        END IF;
        UPDATE student1
        SET grade = v_grade
        WHERE student_id = v_student_id;
    END LOOP;
END;
/
```

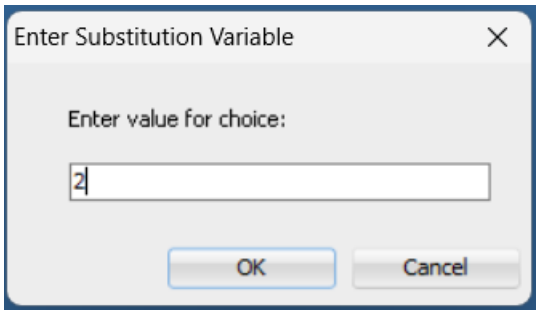


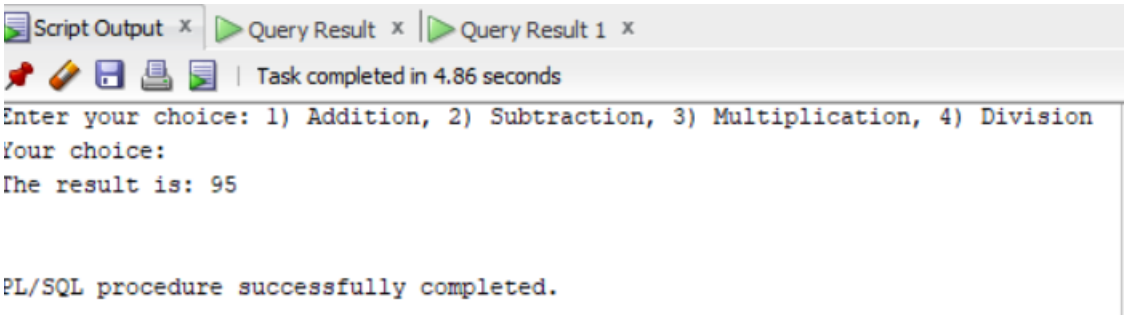
3.

a. Write a PL/SQL program to take two numbers and a choice(1/2/3/4). Based on the choice the program to be performed addition/subtraction/multiplication/division of given two numbers.

```
set serveroutput on
DECLARE
   num1 NUMBER;
   num2 NUMBER;
   choice NUMBER;
   result NUMBER;
BEGIN
   num1 := 100;
   num2 := 5;
   DBMS_OUTPUT.PUT_LINE('Enter your choice: 1) Addition, 2) Subtraction, 3) Multiplication, 4) Division');
   DBMS_OUTPUT.PUT_LINE('Your choice: ');
   choice := &choice;
   IF choice = 1 THEN
      result := num1 + num2;
      DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
   ELSIF choice = 2 THEN
      result := num1 - num2;
      DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
   ELSIF choice = 3 THEN
      result := num1 * num2;
      DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
```

```
    ELSIF choice = 4 THEN
        IF num2 = 0 THEN
            DBMS_OUTPUT.PUT_LINE('Division by zero is not allowed');
        ELSE
            result := num1 / num2;
            DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
        END IF;
    ELSE
        DBMS_OUTPUT.PUT_LINE('Invalid choice');
    END IF;
END;
/
```

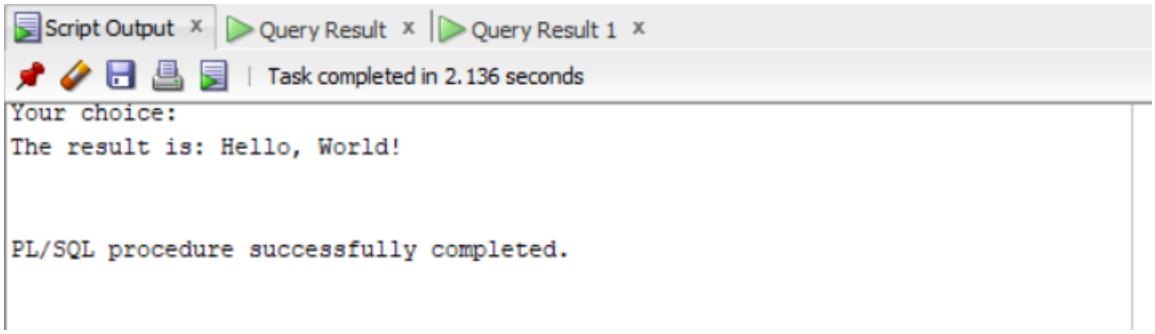




b. Write a PL/SQL program to take two strings and a choice. Based on the choice, you need to perform different string operations on given strings.(Ex: LTRIM, RTRIM, LENGTH, SUBSTR, LPAD, RPAD, etc.,)

```
DECLARE
    str1 VARCHAR2(100) := '  Hello, World!  ';
    str2 VARCHAR2(100) := 'Database Management System';
    choice NUMBER;
    result VARCHAR2(100);
BEGIN
```

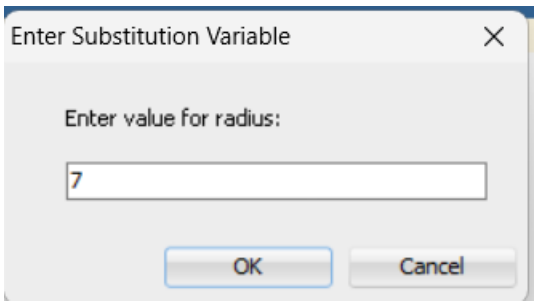
```
    DBMS_OUTPUT.PUT_LINE('Enter your choice: 1) LTRIM, 2) RTRIM, 3) LENGTH, 4) SUBSTR, 5) LPAD,
6) RPAD');
    DBMS_OUTPUT.PUT_LINE('Your choice: ');
    choice := &choice;
    IF choice = 1 THEN
        result := LTRIM(str1);
        DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
    ELSIF choice = 2 THEN
        result := RTRIM(str1);
        DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
    ELSIF choice = 3 THEN
        result := TO_CHAR(LENGTH(str1));
        DBMS_OUTPUT.PUT_LINE('The length of the string is: ' || result);
    ELSIF choice = 4 THEN
        result := SUBSTR(str1, 1, 5);
        DBMS_OUTPUT.PUT_LINE('The substring is: ' || result);
    ELSIF choice = 5 THEN
        result := LPAD(str1, 15, '*');
        DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
    ELSIF choice = 6 THEN
        result := RPAD(str1, 15, '*');
        DBMS_OUTPUT.PUT_LINE('The result is: ' || result);
    ELSE
        DBMS_OUTPUT.PUT_LINE('Invalid choice');
    END IF;
END;
/
```

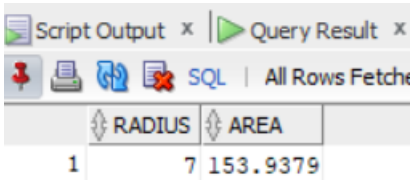


4.

a.Write a PL/SQL code block to calculate the area of a circle for a value of radius given by the user. Store the radius and the corresponding values of calculated area in a table named areas, consisting of two columns radius and area.

```
CREATE TABLE areas (
   radius NUMBER(5,2),
   area NUMBER(10,4)
);
DECLARE
   radius_input NUMBER;
   area_calc NUMBER;
BEGIN
   radius_input := &radius;
   area_calc := 3.14 * radius_input * radius_input;
   INSERT INTO areas (radius, area) VALUES (radius_input, area_calc);
   DBMS_OUTPUT.PUT_LINE('Area calculated and stored successfully for radius: ' || radius_input);
 COMMIT;
END;
/
Select * from areas;
```





b.Write a PL/SQL code to update the salary and commission of employee as per the input given by user.

```
DECLARE
  v_salary NUMBER(8,2);
  v_commission NUMBER(8,2);
  v_employee_id NUMBER(6);
BEGIN
  DBMS_OUTPUT.PUT_LINE('Enter the employee ID: ');
  v_employee_id := &input_employee_id;

  DBMS_OUTPUT.PUT_LINE('Enter the new salary: ');
  v_salary := &input_salary;

  DBMS_OUTPUT.PUT_LINE('Enter the new commission: ');
  v_commission := &input_commission;

  UPDATE emp
  SET sal = v_salary,
     comm = v_commission
  WHERE empno = v_employee_id;

  COMMIT;
 DBMS_OUTPUT.PUT_LINE('Salary and commission updated for employee ID: ' || v_employee_id);
```

END;

/

SELECT * FROM emp;