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# Assignment 8

- Create a program script that uses a PL/SQL anonymous block to perform the following:

Use a host variable AREA to store the result. Declare a local variable RADIUS with numeric data type. Declare a constant PI with value 3.14. Assign a value to the variable RADIUS by using a substitution variable. Calculate area of a circle by using formula.

```
DECLARE
    Area int;
    PI Constant Number := 3.14;
    Radius int;
BEGIN
    Radius := &Radius;
    Area := PI * Radius * Radius;
    DBMS_OUTPUT.PUT_LINE('Area of Circle with Radius'
        ||Radius||' is: '||Area);
```

END;

```
SQL> set serveroutput on
SQL> DECLARE
  2      Area int;
  3      PI CONSTANT Number:=3.14;
  4      Radius int;
  5
  6  BEGIN
  7      Radius := &Radius;
  8      Area := PI * Radius * Radius;
  9      DBMS_OUTPUT.PUT_LINE('Area of Circle with Radius ' ||Radius ||' is: '||Area);
 10  END;
 11  /
Enter value for radius: 25
old   7:     Radius := &Radius;
new   7:     Radius := 25;
Area of Circle with Radius 25 is: 1963

PL/SQL procedure successfully completed.
```

- Write a PL/SQL block to find the square, cube, & double of a number inputted with a substitution variable, & print results using built in packages

DBMS_OUTPUT

```
DECLARE
    num int;
    square NUMBER(50,2);
    cube NUMBER(50,2);
    double_num NUMBER(5,2);
BEGIN
    DBMS_OUTPUT.PUT_LINE('Enter a Number');
    num := &num;
    cube := POWER(num, 3);
    square := POWER(num, 2);
    double_num := num + num;
    DBMS_OUTPUT.PUT_LINE('Square of ' ||num|| 'is' ||square);
    DBMS_OUTPUT.PUT_LINE('Cube of' ||num|| 'is' ||cube);
    DBMS_OUTPUT.PUT_LINE('Double of' ||num|| 'is' ||double_num);
END;
```

```
SQL> DECLARE
  2       num int;
  3       square NUMBER(20,2);
  4       cube NUMBER(20,2);
  5       double_num NUMBER(20,2);
  6
  7   BEGIN
  8       DBMS_OUTPUT.PUT_LINE('Enter a Number');
  9       num := &num;
 10       cube := POWER( num,3);
 11       square := POWER(num,2);
 12       double_num := num + num;
 13
 14       DBMS_OUTPUT.PUT_LINE('Square of ' ||num || ' is ' ||square);
 15       DBMS_OUTPUT.PUT_LINE('Cube of '||num || ' is ' ||cube);
 16       DBMS_OUTPUT.PUT_LINE('Double of '||num||' is '||double_num);
 17   END;
 18   /
Enter value for num: 5
old   9:       num := &num;
new   9:       num := 5;
Enter a Number
Square of 5 is 25
Cube of 5 is 125
Double of 5 is 10

PL/SQL procedure successfully completed.
```

- Write a PL/SQL program to input hours & rate, Find gross pay & net pay. Tax rate is 28%.

```
DECLARE
    gross_pay NUMBER;
    net_pay NUMBER;
    hours_worked NUMBER;
    rate NUMBER;
BEGIN
  DBMS_OUTPUT.PUT_LINE('Total Number of Hours Worked');
  hours_worked := &hours_worked;

  DBMS_OUTPUT.PUT_LINE('Rate');
  rate := &rate;

  gross_pay := hours_worked * rate;
  net_pay := gross_pay - (gross_pay * 0.28);

 DBMS_OUTPUT.PUT_LINE('Gross Salary = ' ||gross_pay);
 DBMS_OUTPUT.PUT_LINE('Net Salary = ' ||net_pay);
END;
```

```
SQL> DECLARE
  2       gross_pay NUMBER;
  3       net_pay NUMBER;
  4       hours_worked NUMBER;
  5       rate NUMBER;
  6
  7  BEGIN
  8
  9       DBMS_OUTPUT.PUT_LINE('Total Number of Hours Worked: ');
 10       hours_worked := &hours_worked;
 11
 12       DBMS_OUTPUT.PUT_LINE('Rate');
 13       rate := &rate;
 14
 15       gross_pay := hours_worked * rate;
 16       net_pay := gross_pay - (gross_pay * 0.28);
 17
 18       DBMS_OUTPUT.PUT_LINE('Gross Salary = '||gross_pay);
 19       DBMS_OUTPUT.PUT_LINE('Net Salary = '||net_pay);
 20  END;
 21  /
Enter value for hours_worked: 500
old  10:       hours_worked := &hours_worked;
new  10:       hours_worked := 500;
Enter value for rate: 250
old  13:       rate := &rate;
new  13:       rate := 250;
Total Number of Hours Worked:
Rate
Gross Salary = 125000
Net Salary = 90000

PL/SQL procedure successfully completed.
```

- Write a PL/SQL program with two variable for the first name & the last name. Print the full name with last name & full name seperated by comma & a space.

```
DECLARE
        firstName  VARCHAR2(20);
        LastName   VARCHAR2(20);

BEGIN
    DBMS_OUTPUT.PUT_LINE('Enter First Name');
    firstName := '&firstName';

    DBMS_OUTPUT.PUT_LINE('Enter Last Name');
    LastName := '&LastName';

    DBMS_OUTPUT.PUT_LINE ('Hello ' ||lastName || ', '
                          ||firstName);
END;
```

```
SQL> DECLARE
  2      firstName VARCHAR2(20);
  3      lastName VARCHAR2(20);
  4
  5  BEGIN
  6      DBMS_OUTPUT.PUT_LINE('Enter Your First Name: ');
  7      firstName := '&firstName';
  8
  9      DBMS_OUTPUT.PUT_LINE('Enter Your Last Name: ');
 10      lastName := '&lastName';
 11
 12      DBMS_OUTPUT.PUT_LINE('Hello ' ||lastName ||', ' ||firstName );
 13
 14  END;
 15  /
Enter value for firstname: Nikhil
old   7:      firstName := '&firstName';
new   7:      firstName := 'Nikhil';
Enter value for lastname: Gupta
old  10:      lastName := '&lastName';
new  10:      lastName := 'Gupta';
Enter Your First Name:
Enter Your Last Name:
Hello Gupta, Nikhil

PL/SQL procedure successfully completed.
```

- Write a PL/SQL block to swap the values of two variables. Print variables before & after swapping.

```
DECLARE
    a number;
    b number;
    c number;
BEGIN
    DBMS_OUTPUT.PUT_LINE('Enter value of a & b');
    a := &100;
    b := 200;
    DBMS_OutPUT.PUT_LINE('Before Swapping');
    DBMS_Output.PUT_LINE('A: '||a);
    DBMS_Output.PUT_LINE('B: '||b);
    c := a;
    a := b;
    b := c;
    DBMS_Output.PUT_LINE('Value after Swapping');
```

DBMS_OUTPUT.PUT_LINE('A: '||a);

DBMS_OUTPUT.PUT_LINE('B: '||b);

END;

```
SQL> DECLARE
  2       a number;
  3       b number;
  4       c number;
  5  BEGIN
  6       DBMS_OUTPUT.PUT_LINE('Enter values of a, b');
  7       a := 100;
  8       b := 200;
  9
 10       DBMS_OUTPUT.PUT_LINE('Before Swapping: ');
 11
 12       DBMS_OUTPUT.PUT_LINE('A: '||a);
 13       DBMS_OUTPUT.PUT_LINE('B: '||b);
 14
 15       c := a;
 16       a := b;
 17       b := c;
 18
 19       DBMS_OUTPUT.PUT_LINE('Value After Swapping: ');
 20       DBMS_OUTPUT.PUT_LINE('A: '||a);
 21       DBMS_OUTPUT.PUT_LINE('B: '||b);
 22
 23  END;
 24  /
Enter values of a, b
Before Swapping:
A: 100
B: 200
Value After Swapping:
A: 200
B: 100

PL/SQL procedure successfully completed.
```