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PROGRAM: Reporting Systems and Database Development (1517)

Course Name: Relational Databases PROG 8590

Assignment No: 05

Assignment 5

Question 1 – Working with Variables and Displaying Output [5 Marks]: Write PL/SQL to do some basic variable manipulation. Store in variable 1 the string "Hello" and store in variable 2 the string "World". Print the concatenated variable 1 to variable 2.

Answer:

```
DECLARE -- declaring section
```

```
v_string1 varchar2(5):='Hello'; -- Declaring variable with value as given
```

```
v_string2 varchar2(5):= 'World'; -- Declaring variable with value as given
```

```
BEGIN --execution section
```

```
DBMS_OUTPUT.put_line(v_string1||' '||v_string2); --Concatenating two variables
```

```
EXCEPTION --exception handling section
```

```
    WHEN OTHERS THEN
```

```
        DBMS_OUTPUT.put_line(SQLERRM);-- Displaying the SQL error messages
```

```
END;
```

In the anonymous block We have stored one value in the the string1 as “Hello” and other value in string 2 as “world”

After that we have done concatenation for the two strings to get output as “Hello World” with exception handling.

SQL Commands

Schema WKSP_PROG8590W22BJ

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```

1  --Anounymus block for declaring variables
2
3  DECLARE -- declaring section
4  v_string1 varchar2(5):='Hello'; -- Declaring variable with value as given
5  v_string2 varchar2(5):= 'World'; -- Declaring variable with value as given
6
7
8  BEGIN --execution section
9  DBMS_OUTPUT.put_line(v_string1||' '||v_string2); --Concatenating two variables
10 EXCEPTION --exception handling section
11     WHEN OTHERS THEN
12     DBMS_OUTPUT.put_line(SQLERRM);-- Displaying the SQL error messages
13 END;
```

Results Explain Describe Saved SQL History

Hello World

Statement processed.

0.01seconds

Question 2 – Conditions and Exceptions [10 Marks]: Write a PL/SQL program to determine the lowest of three numbers by using Nested-If statement. The numbers will be assigned in the declare section.

Answer:

```
DECLARE -- declaring section
```

```
N_number1 number:=14; -- declaring variable with value for first number
```

```
N_number2 number:=9; -- declaring variable with value for second number
```

```
N_number3 number:=11; -- declaring variable with value for third number
```

```
BEGIN --execution section
```

```
IF(N_number1 <= N_number2 AND N_number1 <= N_number3) THEN --IF condition for checking smallest number between the three numbers
```

```
DBMS_OUTPUT.put_line('Out of Number1: ' || N_number1 || ', Number2: ' || N_number2 || ', Number3: ' || N_number3 || '. ' || N_number1 || ' is  
the smallest number between.');
```

```
ELSIF(N_number2 <= N_number1 AND N_number2 <= N_number3) THEN --ELSE-IF condition
```

```
DBMS_OUTPUT.put_line('Out of Number1: ' || N_number1 || ', Number2: ' || N_number2 || ', Number3: ' || N_number3 || '. ' || N_number2 || ' is  
the smallest number between.');
```

```
ELSE ----ELSE condition will execute if all other condition fails
```

```
DBMS_OUTPUT.put_line('Out of Number1: ' || N_number1 || ', Number2: ' || N_number2 || ', Number3: ' || N_number3 || '. ' || N_number3 || ' is  
the smallest number between.');
```

```
END IF; --end of if block
```

```
EXCEPTION --exception handling section
```

```
WHEN OTHERS THEN
```

```
DBMS_OUTPUT.put_line(SQLERRM);-- Display the SQL error message
```

```
END;
```



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SQL Commands

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Rows

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Clear Command

Find Tables

Save

Run

A::



```
1 DECLARE -- declaring section
2 N_number1 number:=14; -- declaring variable with value for first number
3 N_number2 number:=9; -- declaring variable with value for second number
4 N_number3 number:=11; -- declaring variable with value for third number
5
6 BEGIN --execution section
7 IF(N_number1 <= N_number2 AND N_number1 <= N_number3) THEN --IF condition for checking smallest number between the three numbers
8 DBMS_OUTPUT.put_line('Out of Number1: '|| N_number1 ||', Number2: '|| N_number2||', Number3: '|| N_number3||'. '|| N_number1|| ' is the smallest number between.');
```

Results Explain Describe Saved SQL History

Out of Number1: 14, Number2: 9, Number3: 11. 9 is the smallest number between.

Statement processed.

0.01seconds

Question 3 – Cursors [20 Marks]: Write a PL/SQL program to output ID, first name and last name and salary from OEHR_EMPLOYEES. To do this, use explicit cursor. Expected result: 100 Steven King 24000 101 Neena Kochhar 17000 102 Lex De Haan 17000

Answer:

```
DECLARE CURSOR c_employee_salary IS --Define cursor with Name
SELECT EMPLOYEE_ID, FIRST_NAME, LAST_NAME, SALARY FROM OEHR_EMPLOYEES; --query for cursor defined
vid OEHR_EMPLOYEES.EMPLOYEE_ID%TYPE; -- Define variable which can hold data returned from cursor declared
vfname OEHR_EMPLOYEES.FIRST_NAME%TYPE; -- Define variable which can hold data returned from cursor declared
vlname OEHR_EMPLOYEES.LAST_NAME%TYPE; -- Define variable which can hold data returned from cursor declared
vsalary OEHR_EMPLOYEES.SALARY%TYPE; -- Define variable which can hold data returned from cursor declared

BEGIN

OPEN c_employee_salary;

LOOP --start loop

    FETCH c_employee_salary INTO vid,vfname,vlname,vsalary; --store values into variables

    EXIT WHEN c_employee_salary%NOTFOUND; -- halt loop statement if not found

    DBMS_OUTPUT.put_line(vid||' '||vfname||' '||vlname||' '||vsalary); --displaying output

END LOOP; --end loop

CLOSE c_employee_salary; --closing cursor

END; --end cursar
```

SQL Commands

Schema WKSP_PROG8590W22BJ

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SQL

```
1 DECLARE CURSOR c_employee_salary IS --Define cursor with Name
2 SELECT EMPLOYEE_ID, FIRST_NAME, LAST_NAME, SALARY FROM OEHR_EMPLOYEES; --query for cursor defined
3 vid OEHR_EMPLOYEES.EMPLOYEE_ID%TYPE; -- Define variable which can hold data returned from cursor declared
4 vfname OEHR_EMPLOYEES.FIRST_NAME%TYPE; -- Define variable which can hold data returned from cursor declared
5 vlname OEHR_EMPLOYEES.LAST_NAME%TYPE; -- Define variable which can hold data returned from cursor declared
6 vsalary OEHR_EMPLOYEES.SALARY%TYPE; -- Define variable which can hold data returned from cursor declared
7 BEGIN
8 OPEN c_employee_salary;
9 LOOP --start loop
10     FETCH c_employee_salary INTO vid,vfname,vlname,vsalary; --store values into variables
11     EXIT WHEN c_employee_salary%NOTFOUND; -- halt loop statement if not found
12     DBMS_OUTPUT.put_line(vid||' '||vfname||' '||vlname||' '||vsalary); --displaying output
13 END LOOP; --end loop
14 CLOSE c_employee_salary; --closing cursor
15 END; --end cursar
```

Results Explain Describe Saved SQL History

100 Steven King 24000
101 Neena Kochhar 17000
102 Lex De Haan 17000
103 Alexander Hunold 9000