ADVANCED DATABASES

LAB 1

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COURSE: BCA Batch-5

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Experiment 1: To understand the concepts of PL/SQL programming.

1. Write a PL/SQL code to accept the values of A, B & C display which is greater.

Ans: DECLARE

```
A NUMBER:=&A;
B NUMBER:=&B;
C NUMBER:=&C;
greatest NUMBER;
BEGIN
   IF A>=B AND A>=C THEN greatest:=A;
   ELSIF B>=A AND B>=C THEN greatest:=B;
   ELSE greatest := C;
   END IF;
DBMS_OUTPUT.PUT_LINE('the greatest number is'||greatest);
END;
```

Output:

```
SQL> DECLARE
     A NUMBER:=7;
     B NUMBER:=8;
     C NUMBER:=3;...
Show more...


the greatest number is8


PL/SQL procedure successfully completed.

Elapsed: 00:00:00.008
```

2. Using PL/SQL statements, create a simple loop that displays the message "Welcome to PL/SQL Programming" 20 times.

Ans.

```
BEGIN

   FOR I IN 1..20 LOOP

   DBMS_OUTPUT.PUT_LINE('WELCOME TO PL/SQL PROGRAMMING');

   END LOOP;

END;
```

Output:

```
WELCOME TO PL/SQL PROGRAMMING
WELCOME TO PL/SQL PROGRAMMING
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WELCOME TO PL/SQL PROGRAMMING


PL/SQL procedure successfully completed.
```

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

Ans.

```
DECLARE

   N NUMBER:=&N;

   F NUMBER:=1;

BEGIN

   FOR I IN 1..N LOOP
```

```
        F:=F*I;
    END LOOP;
    DBMS_OUTPUT.PUT_LINE
    ('FACTORIAL FOR THE NUMBER'|| N|| 'IS ' ||F);

END;
```

Output:

```
SQL> DECLARE
         N NUMBER:=5;
         F NUMBER:=1;
     BEGIN...
Show more...

FACTORIAL FOR THE NUMBER5IS 120

PL/SQL procedure successfully completed.

Elapsed: 00:00:00.006
```

4. Write a PL/SQL program to generate Fibonacci series.

Ans.
```
DECLARE
  n NUMBER := &n;
  n1 NUMBER :=0;
  n2 NUMBER :=1;
  sum NUMBER;
BEGIN
  DBMS_OUTPUT.PUT_LINE(n1);
  DBMS_OUTPUT.PUT_LINE(n2);
```

```
   FOR i IN 3..n LOOP
      sum:=n1+n2;
      n1:=n2;
      n2:=sum;
      DBMS_OUTPUT.PUT_LINE
        (sum);
   END LOOP;
END;
```

Output:

```
SQL> DECLARE
         n NUMBER := 5;
         n1 NUMBER :=0;
         n2 NUMBER :=1;...
Show more...


0
1
1
2
3


PL/SQL procedure successfully completed.
```

5. Write a PL/SQL code to find the sum of the first N numbers.

Ans.
```
DECLARE
   n   NUMBER := &n;
   sum NUMBER := 0;
BEGIN
   FOR i IN 1..n LOOP
```

```
        sum := sum + i;
    END LOOP;

    DBMS_OUTPUT.PUT_LINE('Sum of first ' || n || ' numbers is: ' || sum);
END;
```

Output:

```
SQL> DECLARE
         n   NUMBER := 5;
         sum NUMBER := 0;
     BEGIN...
Show more...


Sum of first 5 numbers is: 15


PL/SQL procedure successfully completed.

Elapsed: 00:00:00.007
```