Assignment – 7

1. **Write a PL/SQL code for finding factorial of a given number.**

PL/SQL Code:

```
set serveroutput on
declare
n number;
i number;
f number := 1;
begin
n := &x;
for i in 1..n
loop
f := f * i;
end loop;
dbms_output.put_line('Factorial of '||n||' is ' || f);
end;
/
```

Output:

```
SQL> @ "F:\BTech\DBMS LAB\Solved_A_7\a71.sql";
Enter value for x: 5
old   6: n := &x;
new   6: n := 5;
Factorial of 5 is 120

PL/SQL procedure successfully completed.
```

2. **Write a PL/SQL code for calculating finding the sum of N numbers.**

PL/SQL Code:

```
set serveroutput on
declare
n number;
i number;
s number := 0;
begin
n := &x;
for i in 1..n
loop
s := s + i;
end loop;
dbms_output.put_line('Sum of first '||n||' numbers is ' || s);
end;
/
```

Output:

```
SQL> @ "F:\BTech\DBMS LAB\Solved_A_7\a72.sql";
Enter value for x: 10
old   6: n := &x;
new   6: n := 10;
Sum of first 10 numbers is 55

PL/SQL procedure successfully completed.
```

3. **Write a PL/SQL code for finds a given year is leap year or not.**

PL/SQL Code:

```
set serveroutput on
declare
y number;
begin
y:=&n;
if (mod (y,400) = 0 ) then
dbms_output.put_line('Leap Year');
elsif ( (mod (y,4) = 0 ) and (mod (y,100) != 0 ) )
then
dbms_output.put_line('Leap Year');
else
dbms_output.put_line('Not a Leap Year');
end if;
end;
/
```

Output:

```
SQL> @ "F:\BTech\DBMS LAB\Solved_A_7\a73.sql";
Enter value for n: 2023
old   4: y:=&n;
new   4: y:=2023;
Not a Leap Year

PL/SQL procedure successfully completed.
```

4. **Write a PL/SQL code for finding maximum of three numbers (Input will be given by the user).**

PL/SQL Code:

```
set serveroutput on
declare
a number;
b number;
c number;
begin
a := &a;
b := &b;
c := &c;
if (a>b and a>c)
then
dbms_output.put_line (a || ' is the maximum');
elsif (b>c) then
dbms_output.put_line (b || ' is the maximum');
else
dbms_output.put_line (c || ' is the maximum');
end if;
end;
/
```

Output:

```
SQL> @ "F:\BTech\DBMS LAB\Solved_A_7\a74.sql";
Enter value for a: 54
old   6: a := &a;
new   6: a := 54;
Enter value for b: 45
old   7: b := &b;
new   7: b := 45;
Enter value for c: 49
old   8: c := &c;
new   8: c := 49;
54 is the maximum

PL/SQL procedure successfully completed.
```

5. **Write a PL/SQL code block to calculate the area of a circle for a value of radius varying from 6 to 10. Store the radius and corresponding values of calculated area in an empty table named Areas, Consisting of two columns Radius and Area.**

PL/SQL Code:

```
set serveroutput on
drop table Areas;
create table Areas (radius number (5,3), area number (10,3));
declare
r number;
pi constant number (8,2 ) := 3.14;
area number (10, 2);
begin
for r in 6..10
loop
area := pi * power(r, 2);
insert into Areas values (r, area);
end loop;
end;
/
```

Output:

```
SQL> SELECT * FROM Areas;

    RADIUS       AREA
---------- ----------
         6     113.04
         7     153.86
         8     200.96
         9     254.34
        10        314
```

6. **Write a PL/SQL code block that will accept a client_no from the user and adds the amount of Rs. 1000 to bal_due column, has a minimum balance of Rs. 6000. The process is fire on client_master.**

PL/SQL Code:

```
set serveroutput on
declare
cli_no varchar2(6) := '&client_no';
t_c_no number(10,2);
begin
select balance_due into t_c_no from client_master where
client_no = cli_no;
if (t_c_no >=6000)
then
t_c_no := t_c_no+1000;
update client_master set balance_due= t_c_no where
client_no = cli_no;
else
dbms_output.put_line ('The balance is below 6000.');
end if;
end;
/
```

Output:

```
SQL> @ "F:\BTech\DBMS LAB\Solved_A_7\a76.sql";
Enter value for client_no: C003
old   2: cli_no varchar2(6) := '&client_no';
new   2: cli_no varchar2(6) := 'C003';
The balance is below 6000.

PL/SQL procedure successfully completed.
```