

Database and Management System Lab

Lab Experiment – 13

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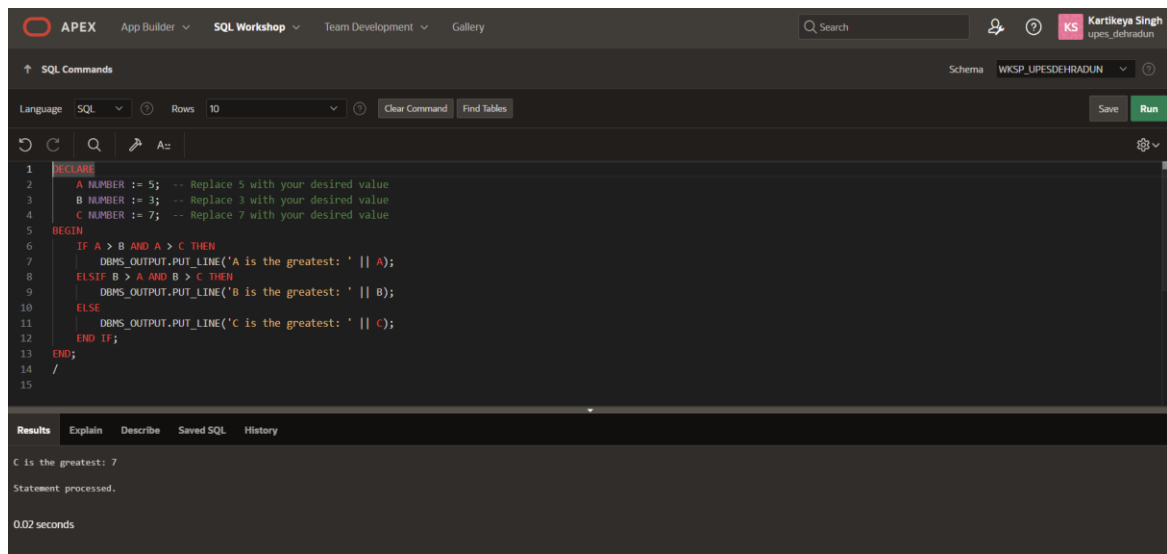
2nd Year, 3rd Semq, 2024-25



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Dehradun**

To understand the concepts of PL/SQL programming

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



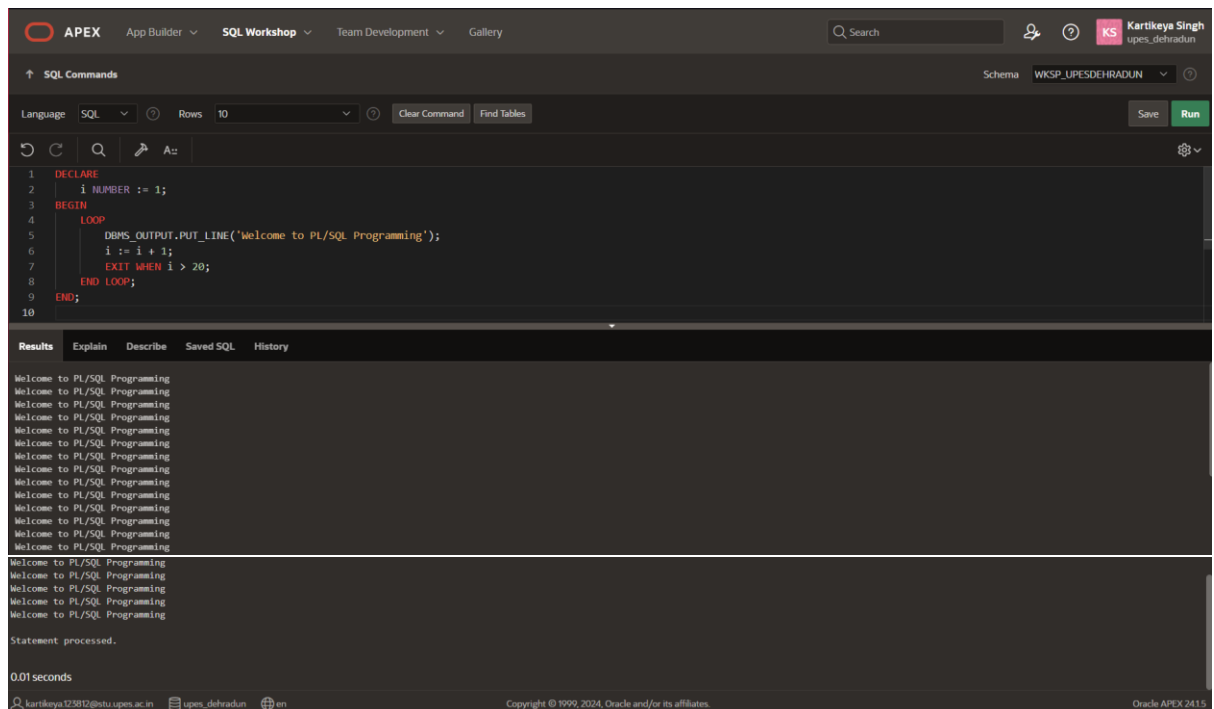
```
1 DECLARE
2   A NUMBER := 5; -- Replace 5 with your desired value
3   B NUMBER := 3; -- Replace 3 with your desired value
4   C NUMBER := 7; -- Replace 7 with your desired value
5 BEGIN
6   IF A > B AND A > C THEN
7     DBMS_OUTPUT.PUT_LINE('A is the greatest: ' || A);
8   ELSIF B > A AND B > C THEN
9     DBMS_OUTPUT.PUT_LINE('B is the greatest: ' || B);
10  ELSE
11    DBMS_OUTPUT.PUT_LINE('C is the greatest: ' || C);
12  END IF;
13 END;
14 /
15
```

Results Explain Describe Saved SQL History

C is the greatest: 7
Statement processed.
0.02 seconds

Here I've predetermined the values of A, B, C which are 5, 3, 7 respectively and hence the code will tell me which has highest value, and hence C has 7 as value so result is "C is the greatest: 7".

2. Using PL/SQL Statements create a simple loop that display message “Welcome to PL/SQL Programming” 20 times.



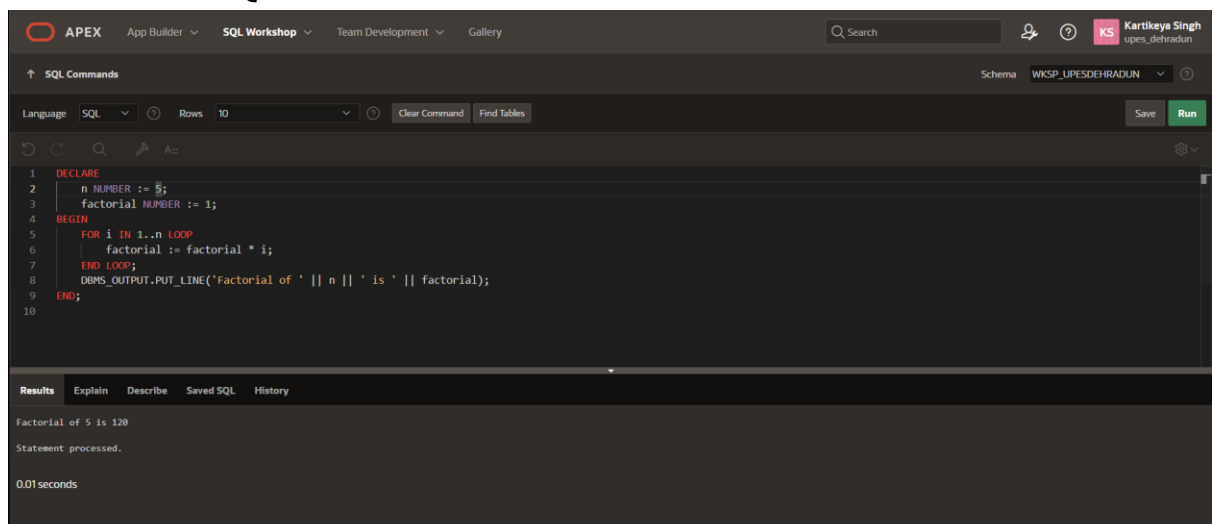
The screenshot shows the APEX SQL Workshop interface. The SQL Commands pane contains the following code:

```
1 DECLARE
2   i NUMBER := 1;
3 BEGIN
4   LOOP
5     DBMS_OUTPUT.PUT_LINE('Welcome to PL/SQL Programming');
6     i := i + 1;
7     EXIT WHEN i > 20;
8   END LOOP;
9 END;
```

The Results pane shows the output of the execution, displaying the message "Welcome to PL/SQL Programming" 20 times. The statement was processed successfully in 0.01 seconds.

Print "Welcome to PL/SQL Programming" 20 times: Uses a LOOP construct to print the message 20 times.

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



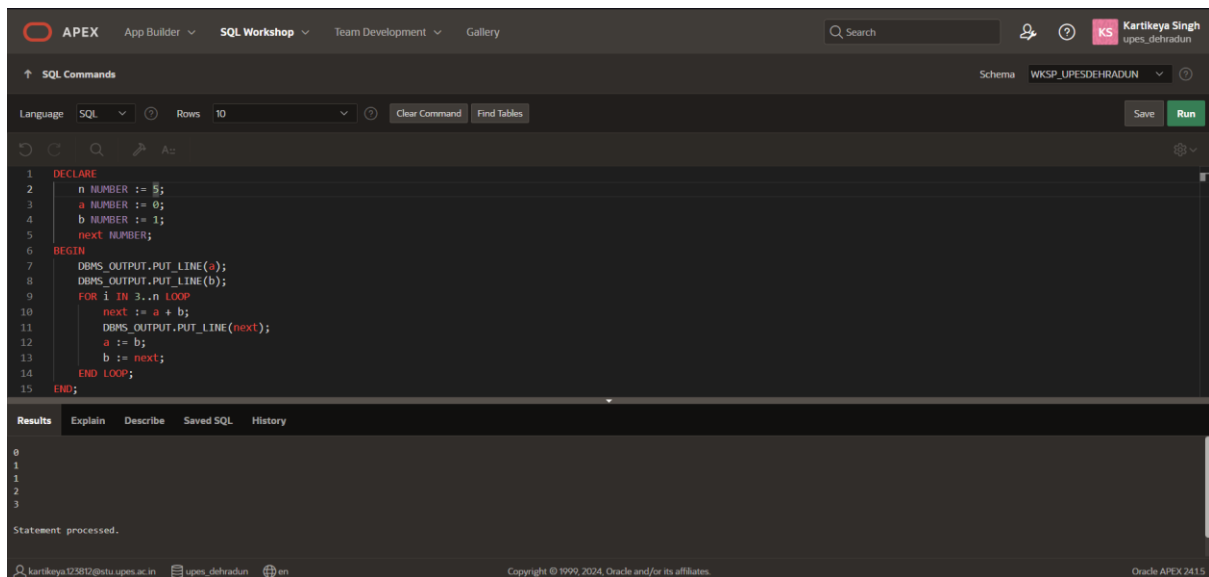
The screenshot shows the APEX SQL Workshop interface. The SQL Commands pane contains the following code:

```
1 DECLARE
2   n NUMBER := 5;
3   factorial NUMBER := 1;
4 BEGIN
5   FOR i IN 1..n LOOP
6     factorial := factorial * i;
7   END LOOP;
8   DBMS_OUTPUT.PUT_LINE('Factorial of ' || n || ' is ' || factorial);
9 END;
```

The Results pane shows the output of the execution, displaying the message "Factorial of 5 is 120". The statement was processed successfully in 0.01 seconds.

Calculate factorial: Uses a FOR loop to multiply numbers from 1 to n, finding the factorial

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



The screenshot shows the APEX SQL Workshop interface. The SQL Commands pane contains the following PL/SQL code:

```
1 DECLARE
2   n NUMBER := 5;
3   a NUMBER := 0;
4   b NUMBER := 1;
5   next NUMBER;
6 BEGIN
7   DBMS_OUTPUT.PUT_LINE(a);
8   DBMS_OUTPUT.PUT_LINE(b);
9   FOR i IN 3..n LOOP
10    next := a + b;
11    DBMS_OUTPUT.PUT_LINE(next);
12    a := b;
13    b := next;
14  END LOOP;
15 END;
```

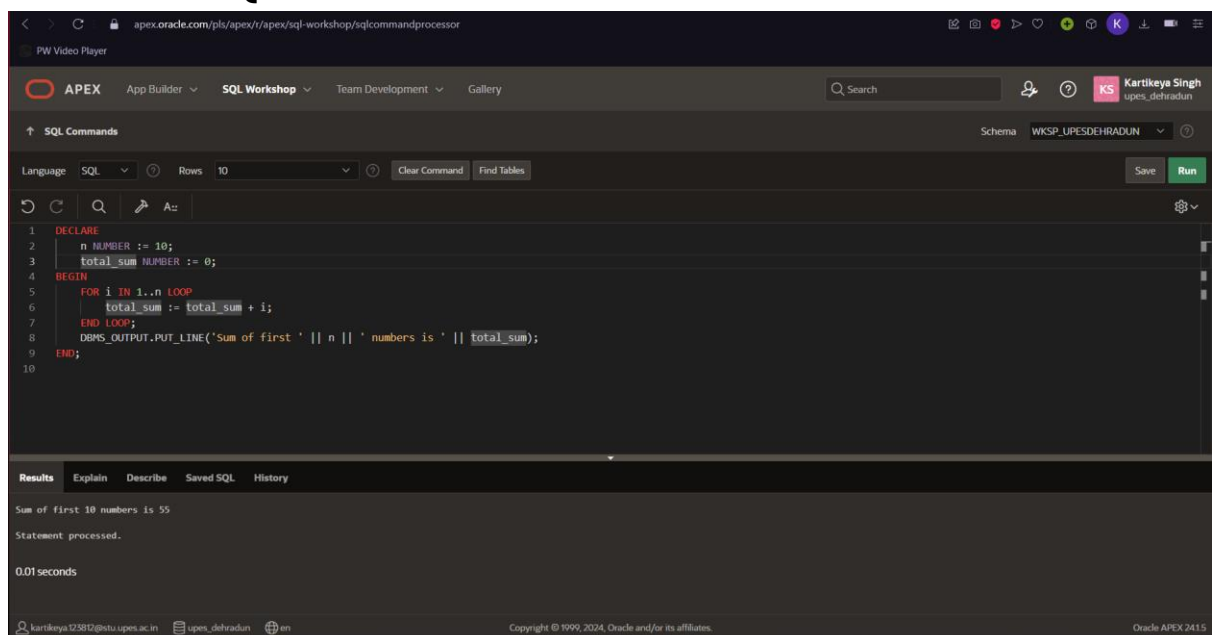
The Results pane shows the output of the program:

```
0
1
2
3
```

Statement processed.

Generate Fibonacci series: Uses a FOR loop to generate the Fibonacci sequence by summing the previous two numbers.

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



The screenshot shows the APEX SQL Workshop interface. The SQL Commands pane contains the following PL/SQL code:

```
1 DECLARE
2   n NUMBER := 10;
3   total_sum NUMBER := 0;
4 BEGIN
5   FOR i IN 1..n LOOP
6     total_sum := total_sum + i;
7   END LOOP;
8   DBMS_OUTPUT.PUT_LINE('Sum of first ' || n || ' numbers is ' || total_sum);
9 END;
```

The Results pane shows the output of the program:

```
Sum of first 10 numbers is 55
```

Statement processed.

0.01 seconds

Sum of first N numbers: Uses a FOR loop to add numbers from 1 to N, then prints the total sum.