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**TERM : FALL 2022**

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| **Course & Section Code:** | **COMP214** |
| --- | --- |
| **Course Name:** | **Advanced Database Concept** |
|  |  |
| **Q&A / Virtual Office Hour:** |  |
| **Instructor Name & Email:** | Ersan Cam  [ecam@my.centennialcollege.ca](mailto:ecam@my.centennialcollege.ca) |

Assigment#3

(Database Programming Fundamentals)

**Due Date : Follow the announcement/ Assignment 3 drop box for Due date**

Instructions for delivery of this Labs file back to instructor.

**Step 1:** Download this word copy of Lab document.

**Step2:** Work on your question in SQL Developer.

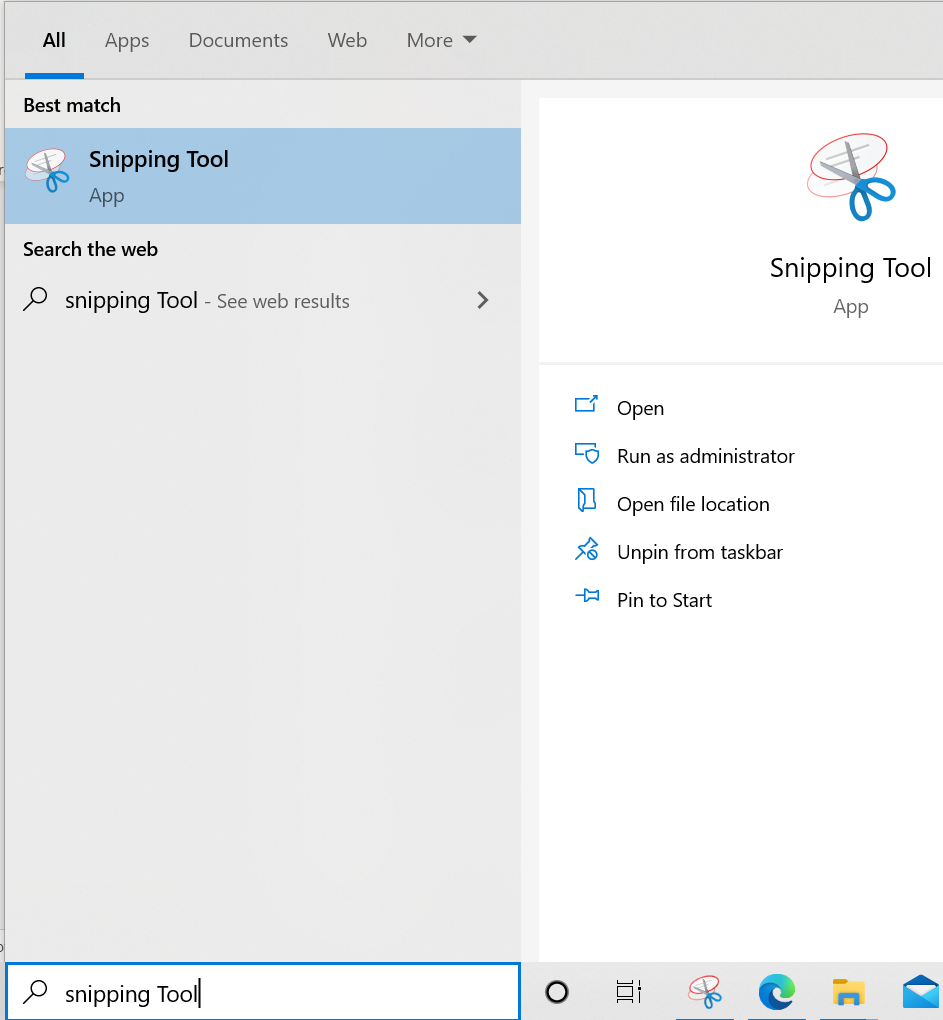
**Step3:** Once you solve the problem copy paste the code under each question and Highlight with RED color

**Step4:** Also go to your Sql Developer and capture screen entire screen with command you execute and result at the bottom. Use Snipping tool in windows to capture screen shot. Below picture shows how to open free windows based snipping screen capture tool

Step5: Drop your finalized & saved word document to respective Lab dropbox assignment folder.

**Please note that Instructor has the right to call out any students randomly to ask demonstration their solution and walk thru their work and justify their answers in one on one breakout room.**

**The tool to capture screen shot.**



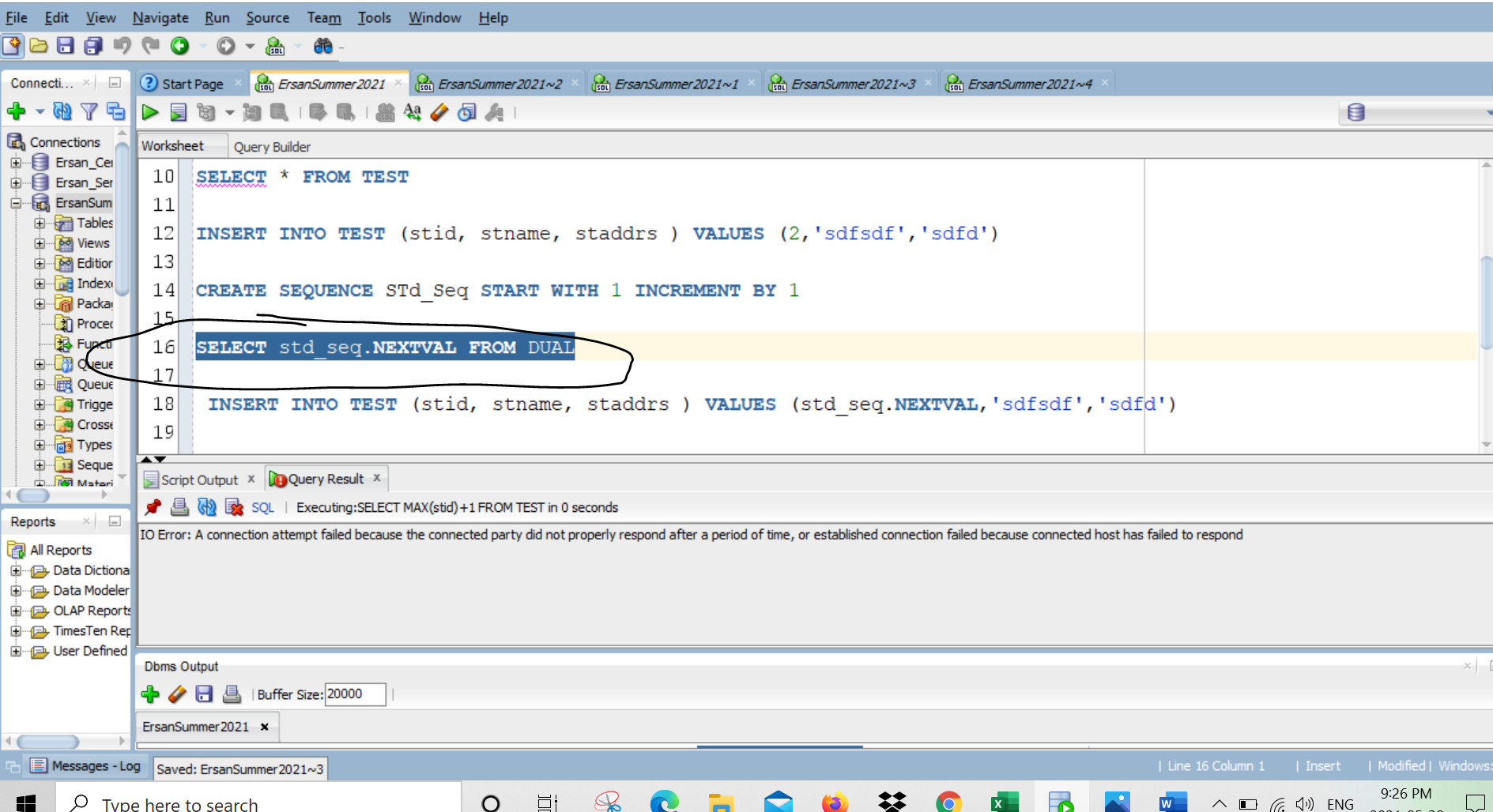
**Demo Question:** How to execute Sequence.Nextval command?

Demo Answer:

Copy paste of actual command: SELECT std\_seq.NEXTVAL FROM DUAL;

Demo Screen shot:

Copy paste screen shot of same command



**Total 4 questions, each 2.5 points, Total 10**

Question 1 , 2 and 3 are from HR\_ database tables

1)

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CREATE or REPLACE PROCEDURE DEL\_JOBS (p\_job\_id IN HR\_JOBS.JOB\_ID%TYPE)

IS

v\_job\_id HR\_JOBS.JOB\_ID%TYPE;

BEGIN

SELECT JOB\_ID INTO v\_job\_id FROM HR\_JOBS WHERE HR\_JOBS.JOB\_ID = p\_job\_id;

IF p\_job\_id = v\_job\_id THEN

DELETE FROM HR\_JOBS WHERE HR\_JOBS.JOB\_ID = p\_job\_id;

END IF;

EXCEPTION

WHEN NO\_DATA\_FOUND THEN

RAISE\_APPLICATION\_ERROR (-20203,

'NO JOBS DELETED');

END DEL\_JOBS;

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**Testing DEL\_JOBS Procedure**

SELECT \* FROM HR\_JOBS WHERE JOB\_ID='IT\_DBA';

EXECUTE DEL\_JOBS('IT\_DBA');

SELECT \* FROM HR\_JOBS WHERE JOB\_ID='IT\_DBA';

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**Testing Exception**

EXECUTE DEL\_JOBS('IT\_WEB');

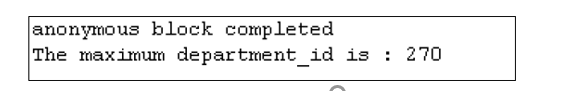
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**2.** Create a PL/SQL block that selects the maximum department ID in the departments table and stores it in the v\_max\_deptno variable. Display the maximum department ID.

1. Declare a variable, **v\_max\_deptno** , of type NUMBER in the declarative section.
2. Start the executable section with the BEGIN keyword and include a SELECT statement to retrevive the maximum **department\_id** from the departments table.
3. Display the **v\_max\_deptno** and end the executable block
4. Execute your code..

Output should be as follows



DECLARE

v\_max\_deptno NUMBER (8);

BEGIN

SELECT MAX(DEPARTMENT\_ID) INTO v\_max\_deptno FROM HR\_DEPARTMENTS;

DBMS\_OUTPUT.PUT\_LINE(' The maximum department\_id is : ' || v\_max\_deptno);

END;

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**3.** Modify the PL/SQL block you created in Question 2 to insert a new department in the departments table.

1. Use the same code that you completed in question 3 and edit it again to add below steps.

Declare two variales:

**v\_dept\_name** of type departments.department\_name (%TYPE) and

**v\_dept\_id** of type NUMBER

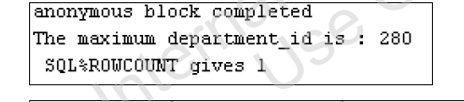
Assign ‘Education’ to v\_dept\_name in the declarative section.

1. You have already retreived current maximum department ID from the departments tables in question 3. Now add 10 to it and assign the result to **v\_dept\_id**.
2. Include an INSERT statement to insert data into the department\_name, department\_id, and location\_id columns of the departments table.

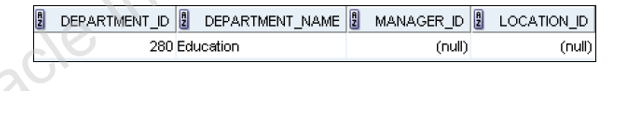
Use values in **v\_dept\_name** and **v\_dept\_id** for **department\_name** and **department\_id**, columns respectively and use NULL for **location\_id**.

1. Use the SQL attribute SQL%ROWCOUNT to display the number of rows that are affected right after INSERT command.
2. Execute your script.

Output should be like follows.



On different screen of SQL Developer, select Departments table and show newly added record



DECLARE

v\_max\_deptno NUMBER (8);

v\_dept\_name HR\_DEPARTMENTS.department\_name%TYPE := 'Education';

v\_dept\_id NUMBER (8);

BEGIN

SELECT MAX(DEPARTMENT\_ID) INTO v\_max\_deptno FROM HR\_DEPARTMENTS;

v\_dept\_id := v\_max\_deptno + 10;

INSERT INTO HR\_DEPARTMENTS(department\_name,department\_id,location\_id) VALUES(v\_dept\_name,v\_dept\_id,null);

SELECT MAX(DEPARTMENT\_ID) INTO v\_max\_deptno FROM HR\_DEPARTMENTS;

DBMS\_OUTPUT.PUT\_LINE(' The maximum department\_id is : ' || v\_max\_deptno);

DBMS\_OUTPUT.PUT\_LINE(' SQL%ROWCOUNT gives '|| SQL%ROWCOUNT);

END;

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For Question 4 Use BB Coffee Brewery database. BB\_ tables

4. **Calculating a Shopper’s Total Number of Orders**

Another commonly used statistic in reports is the total number of orders a shopper has placed.

Follow these steps to create a function named NUM\_PURCH\_SF that accepts a shopper ID and

returns a shopper’s total number of orders. Use the function in a SELECT statement to display

the number of orders for shopper 23.

1. Develop and run a CREATE FUNCTION statement to create the **NUM\_PURCH\_SF** function.

The function code needs to tally the number of orders (using an Oracle built-in function)

by shopper. Keep in mind that the ORDERPLACED column contains a 1 if an order has

been placed.

2. Create a SELECT query by using the NUM\_PURCH\_SF function on the IDSHOPPER column

of the BB\_SHOPPER table. Be sure to select only shopper 23.

**Hint:**

CREATE OR REPLACE FUNCTION

BEGIN

SELECT COUNT(idBasket)

INTO variable

FROM bb\_basket

WHERE idShopper = p\_id

AND orderplaced = 1;

RETURN variable;

END;

**Test:**

SELECT num\_purch\_sf(idShopper)

FROM bb\_shopper

WHERE idShopper = 23;

\*\*\*\* CODE\*\*\*

CREATE OR REPLACE FUNCTION NUM\_PURCH\_SF

(p\_shopper\_id IN BB\_BASKET.IDSHOPPER%TYPE)

RETURN NUMBER IS

v\_total\_orders BB\_BASKET.ORDERPLACED%TYPE;

BEGIN

SELECT COUNT(idBasket)

INTO v\_total\_orders

FROM BB\_BASKET

WHERE idShopper = p\_shopper\_id

AND orderplaced = 1;

RETURN v\_total\_orders;

END NUM\_PURCH\_SF;

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**Testing Function NUM\_PURCH\_SF**

SELECT NUM\_PURCH\_SF(idShopper)

FROM bb\_shopper

WHERE idShopper = 23;

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