Experiment-7:To Implement the concept of Grouping

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Semester: 3rd   **Date of Performance:** 10/13/2021

Subject Name:- DATABASE MANAGEMENT SYSTEM LAB

Subject Code: 21O-20CSP-233_20BIT-1_A

1. Aim/Overview of the practical:

To Implement the concept of Grouping.

2. Task to be done:

Implementation of grouping commands of SQL with proper Input queries syntax and the output.

3. Theme/Interests definition(For creative domain):-

1. Creating copy existing tables of employees for this experiment as bemp

Aggregate functions in database management system take single or multiple rows from the table as input and return a value according to the query raised by the user.

All the aggregate functions are used in Select statement.

The basic aggregate functions are:

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Ø COUNT()   Ø SUM()   Ø AVG() Ø MIN()   Ø MAX()

Order by and Group by are some of the commands which are used along with the aggregate functions to produce output of desire taking the rows as input.

1. COUNT ():

Command: - count

Purpose: - This aggregate function is used to return the count or the total values of a given column.
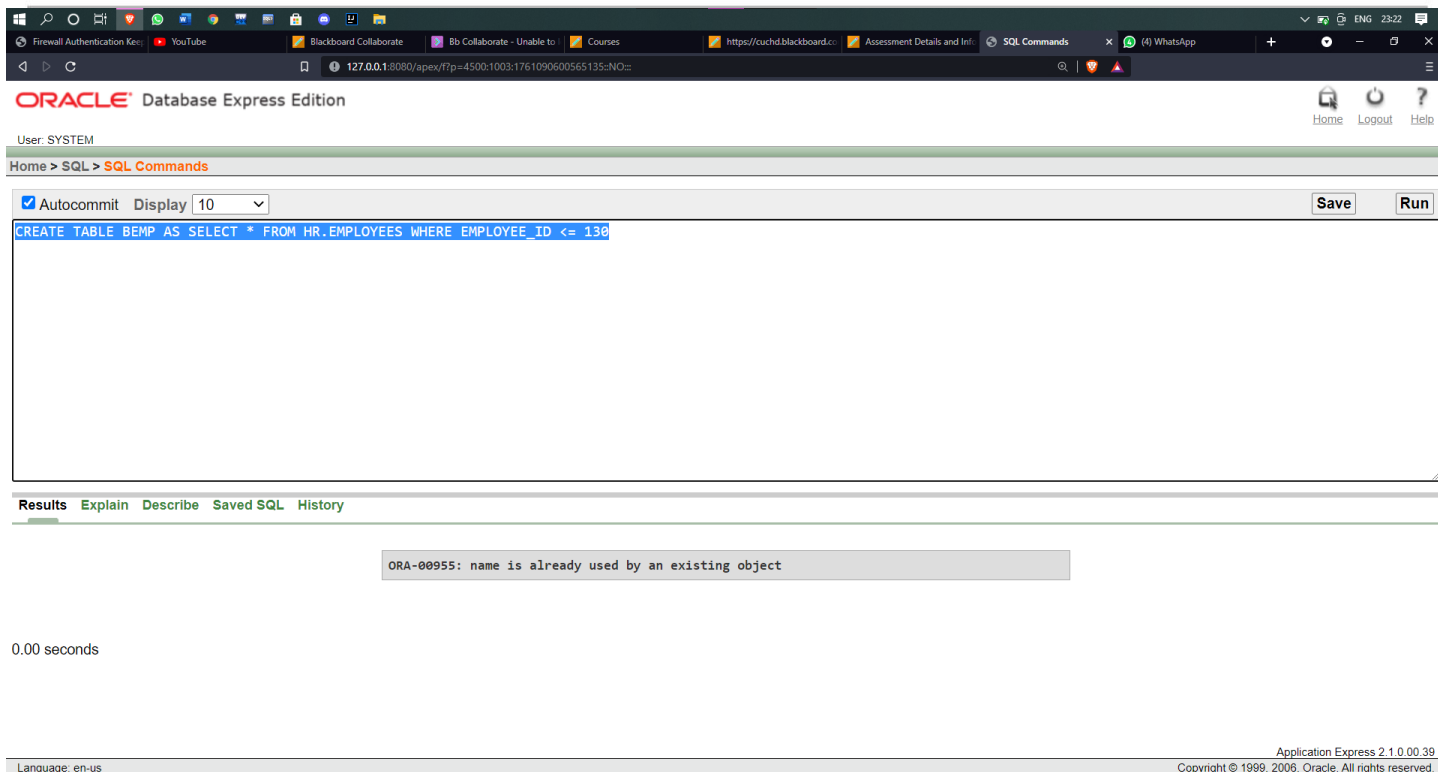
Syntax: -

Select Count(*) from <table_name>: Returns total number of records
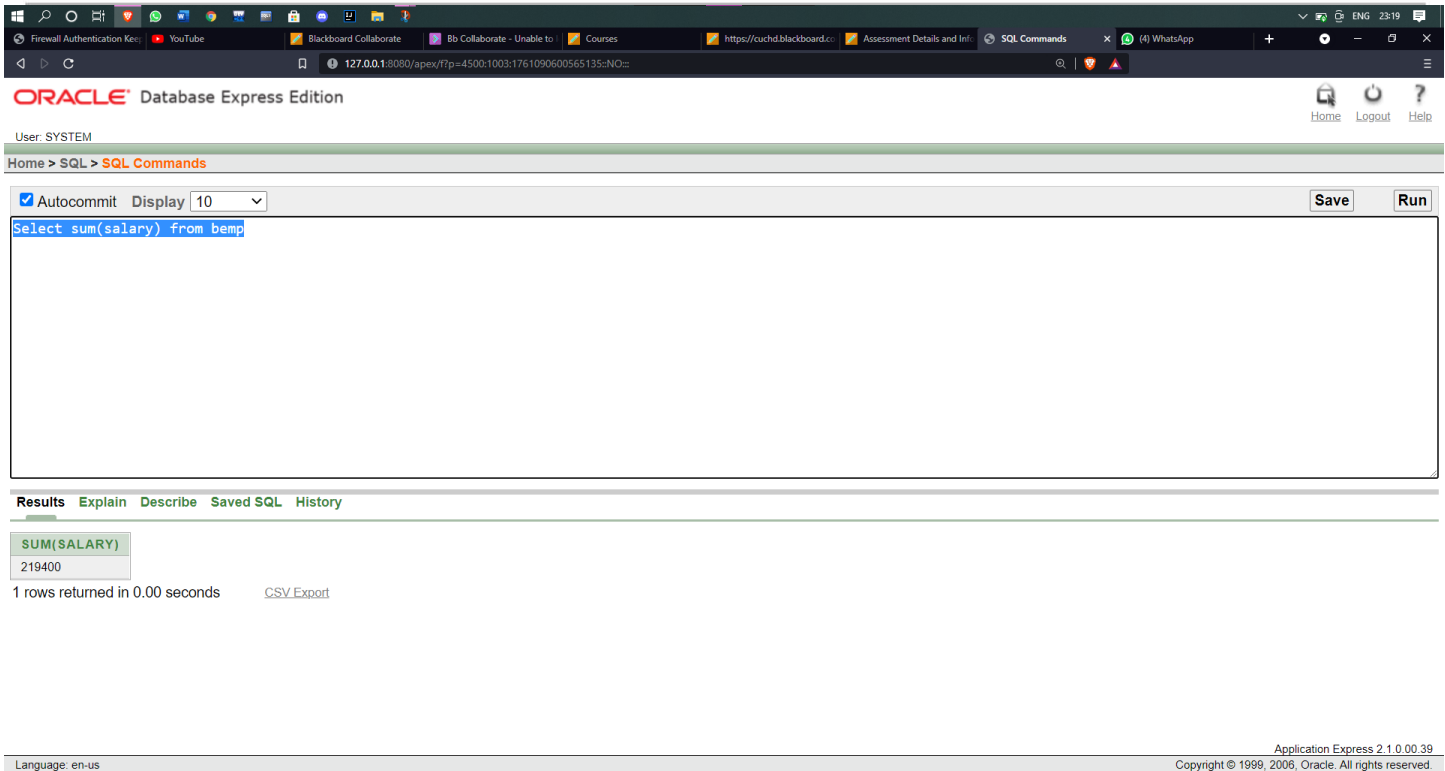
Select Count(<column name>) from <table name>: Returns number of Non Null values in the column

Select Count(Distinct <column name>) from <table name>: Returns number of distinct Non Null values in the column

Output: -

CREATE TABLE BEMP AS SELECT * FROM HR.EMPLOYEES WHERE EMPLOYEE_ID <= 130

ORA-00955: name is already used by an existing object

2. SUM ():

Command: - sum

Purpose: - This aggregate function is used to return the sum of all the values of a given column.

Syntax: -
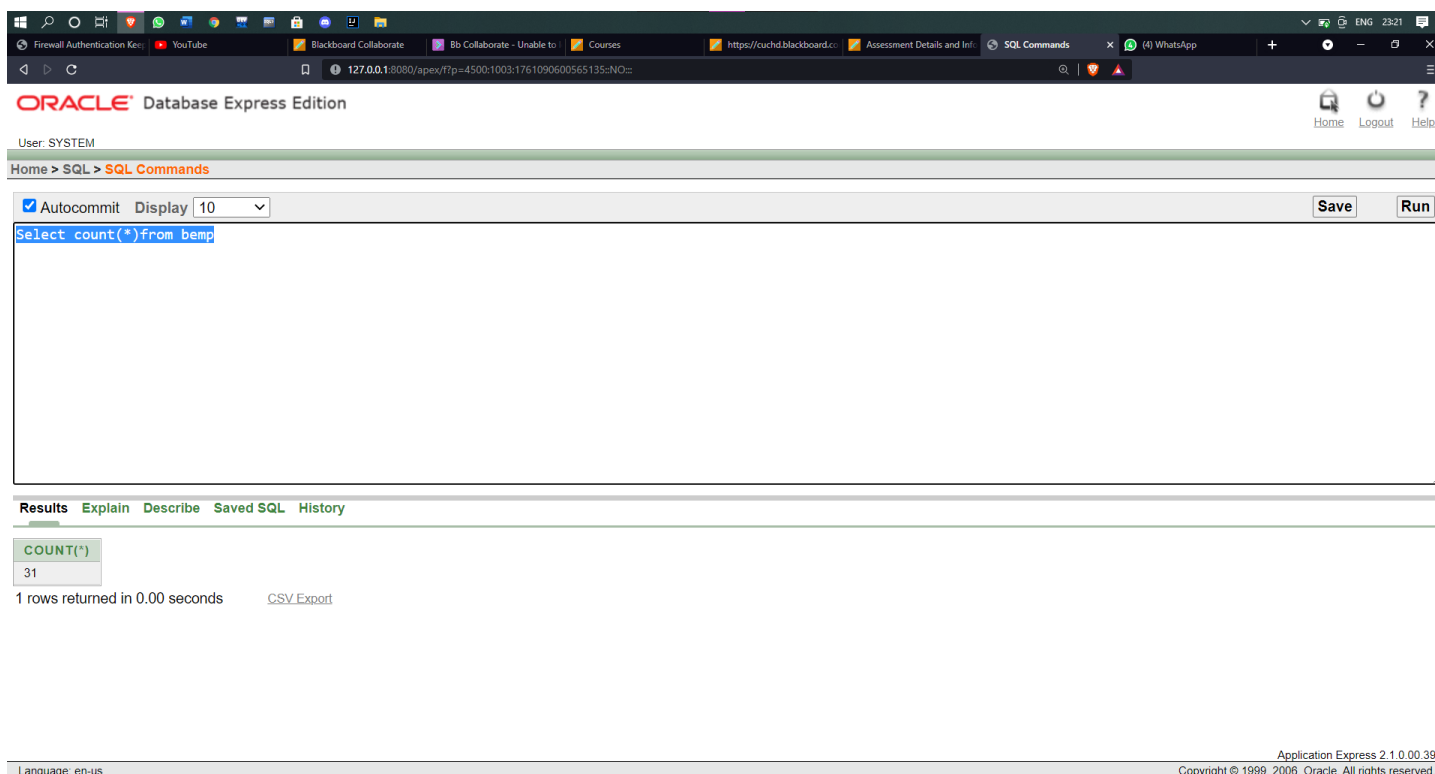
1. Sum all Non Null values of Column-

   Select sum(<column name>) from <table name>

2. Sum of all distinct Non-Null values.

Select sum(Distinct <column name>) from <table name>

Output

3. _MIN ():_

Command: min

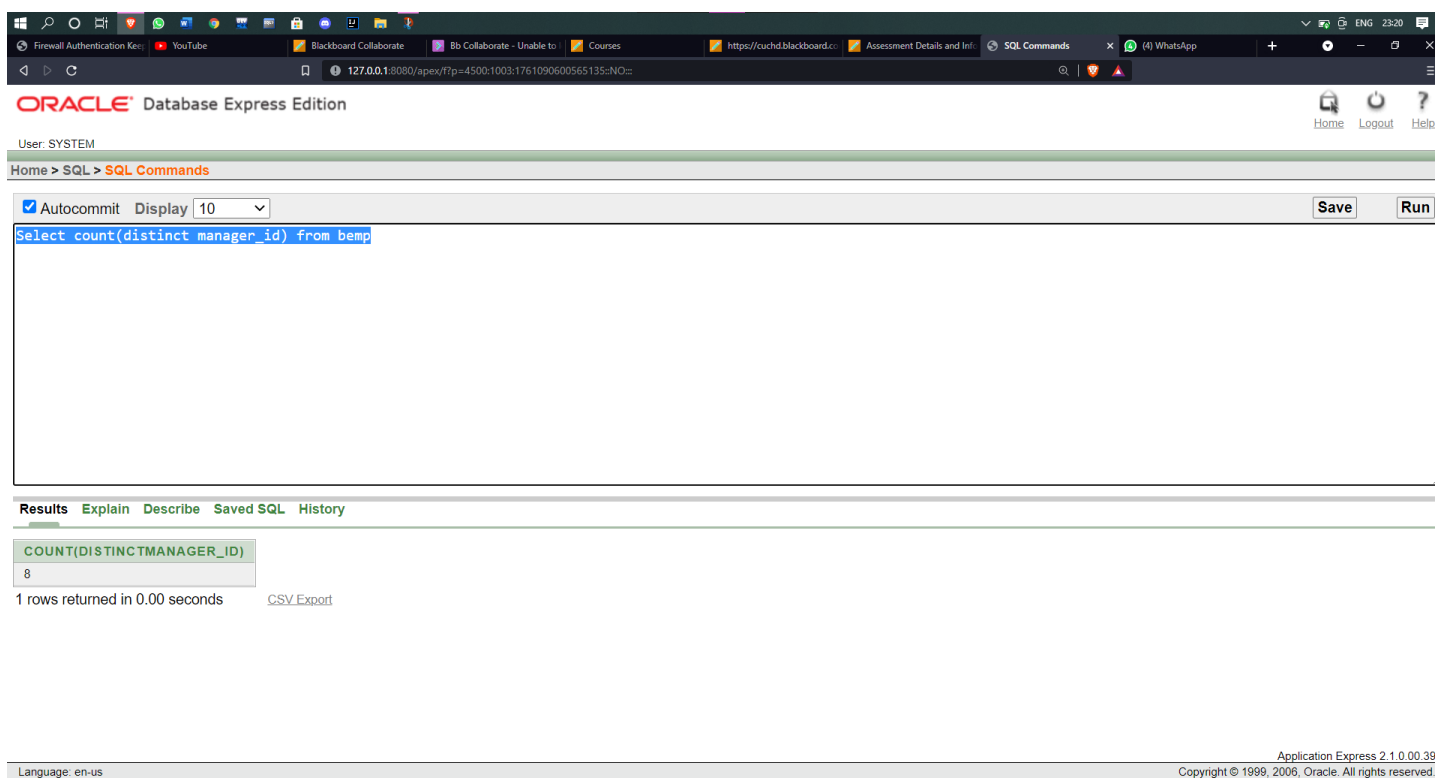**Purpose: -** This aggregate function is used to return the minimum element present in the given column.

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Syntax: -

1. Minimum value in the column except NULL

Select min(<column name>) from <table name>

Select min(HIRE_DATE) from BEM

OUTPUT

ORACLE Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

Autocommit Display 10

Save   Run

```
Select sum(salary) from bemp
```

Results Explain Describe Saved SQL History

SUM(SALARY)
219400

1 rows returned in 0.00 seconds   CSV Export

Application Express 2.1.0.00.39

4. *MAX():*

Command: - max

Purpose: - This aggregate function is used to return the maximum element present in the given column.

Syntax: -

1. Maximum value in the column except NULL

    Select max(<column name>) from <table name>:

OUTPUT:-

ORACLE Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

Autocommit Display 10

Save Run

```
Select min(hire_date) from bemp
```

Results Explain Describe Saved SQL History

MIN(HIRE_DATE)
17-JUN-87

1 rows returned in 0.00 seconds   CSV Export

5. **AVERAGE():**

Purpose: - This aggregate function is used to return the average value or the arithmetic mean of all the values in the given column.
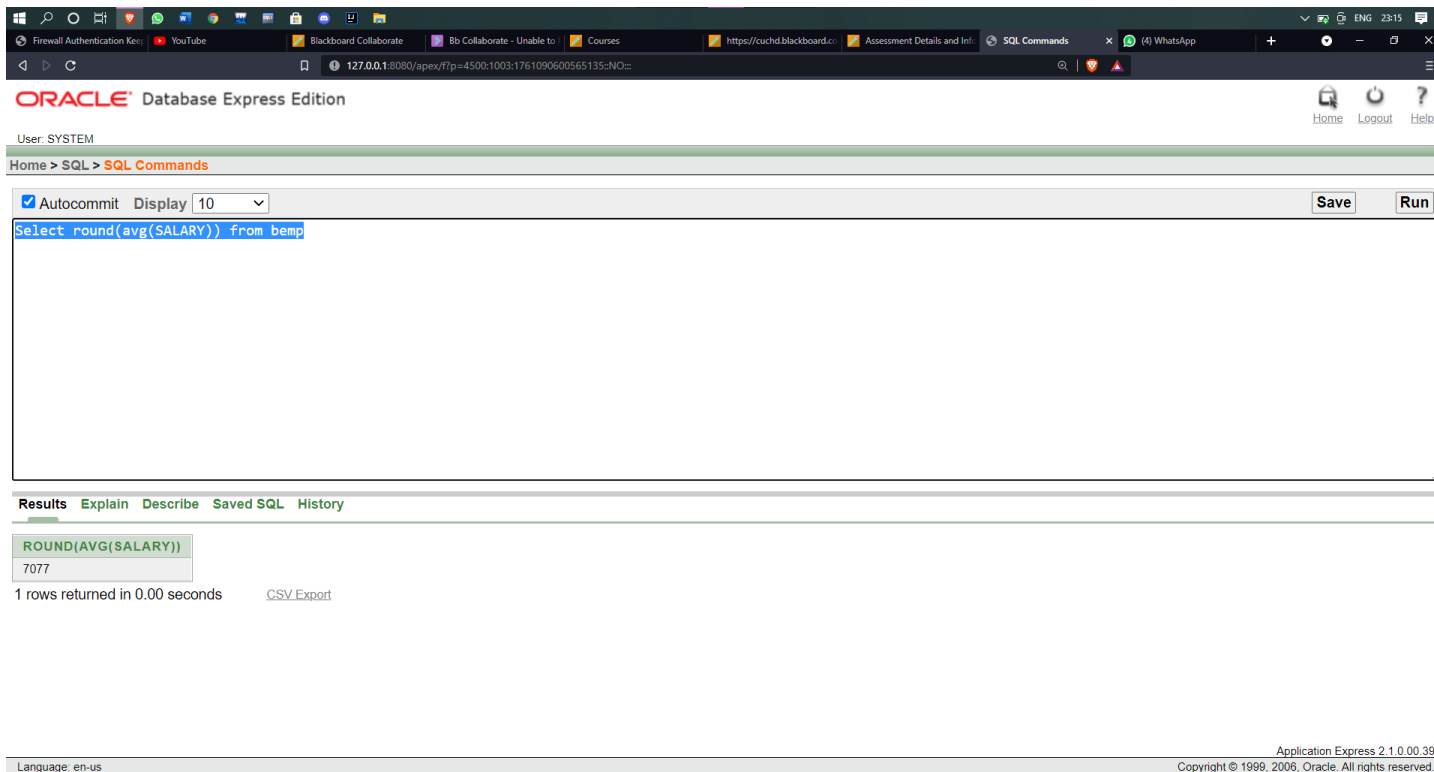
Syntax: -

1. Average *value of all in the column*

Select avg(<column name>) from <table name>

2. *Average value of all distinct values in the column*

Select avg(distinct <column name>) from <table name>
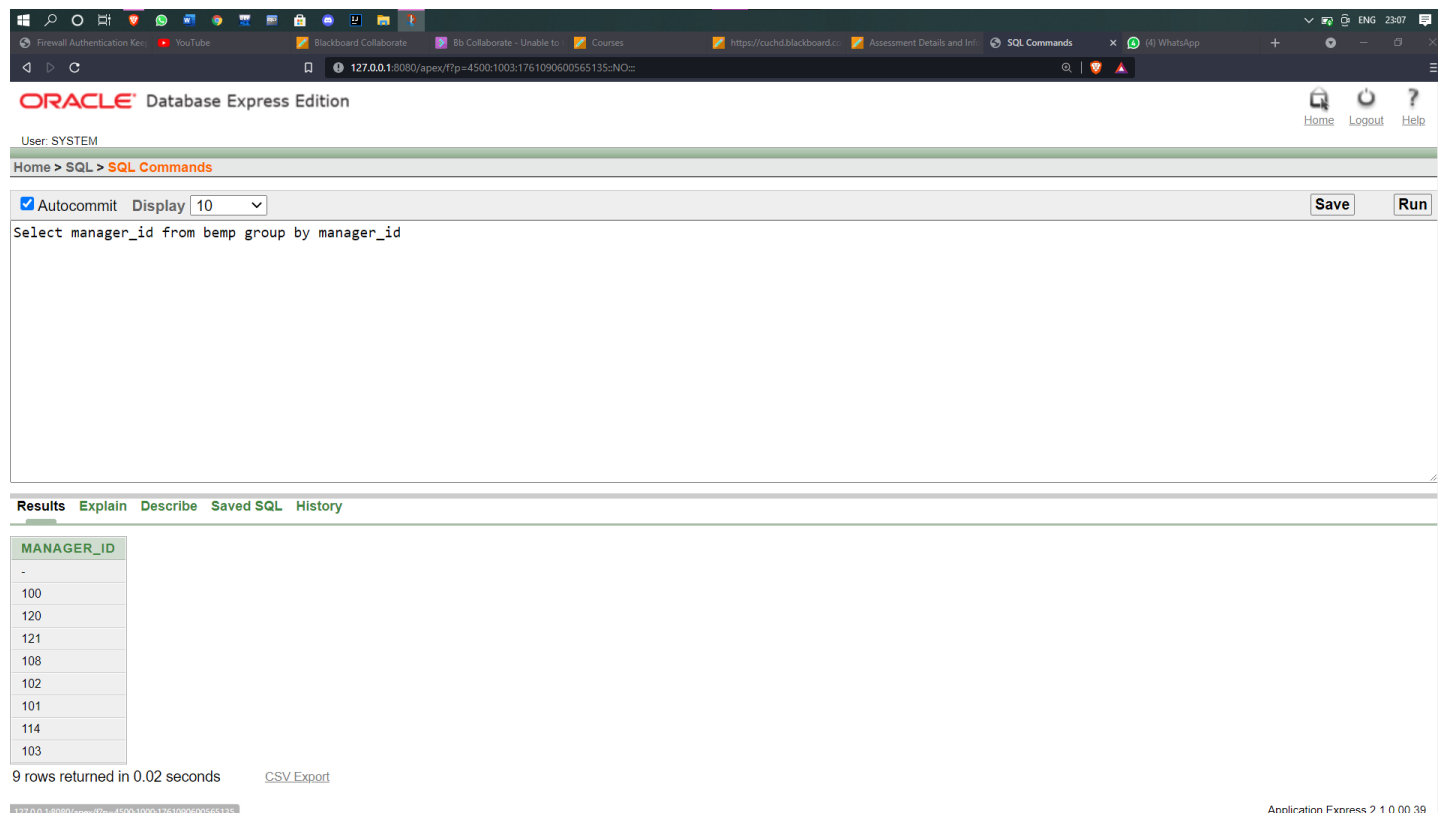
Output:-

1. GROUP BY:

Command: - group by

Purpose: - The function is used to arrange identical data into groups with the help of some aggregate functions. i.e if a particular column has same values in different rows then it will arrange these rows in a group.

Syntax: - *Select <column1>,function name(<column name>) from <table name> where condition group by <column name>*

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OUTPUT–

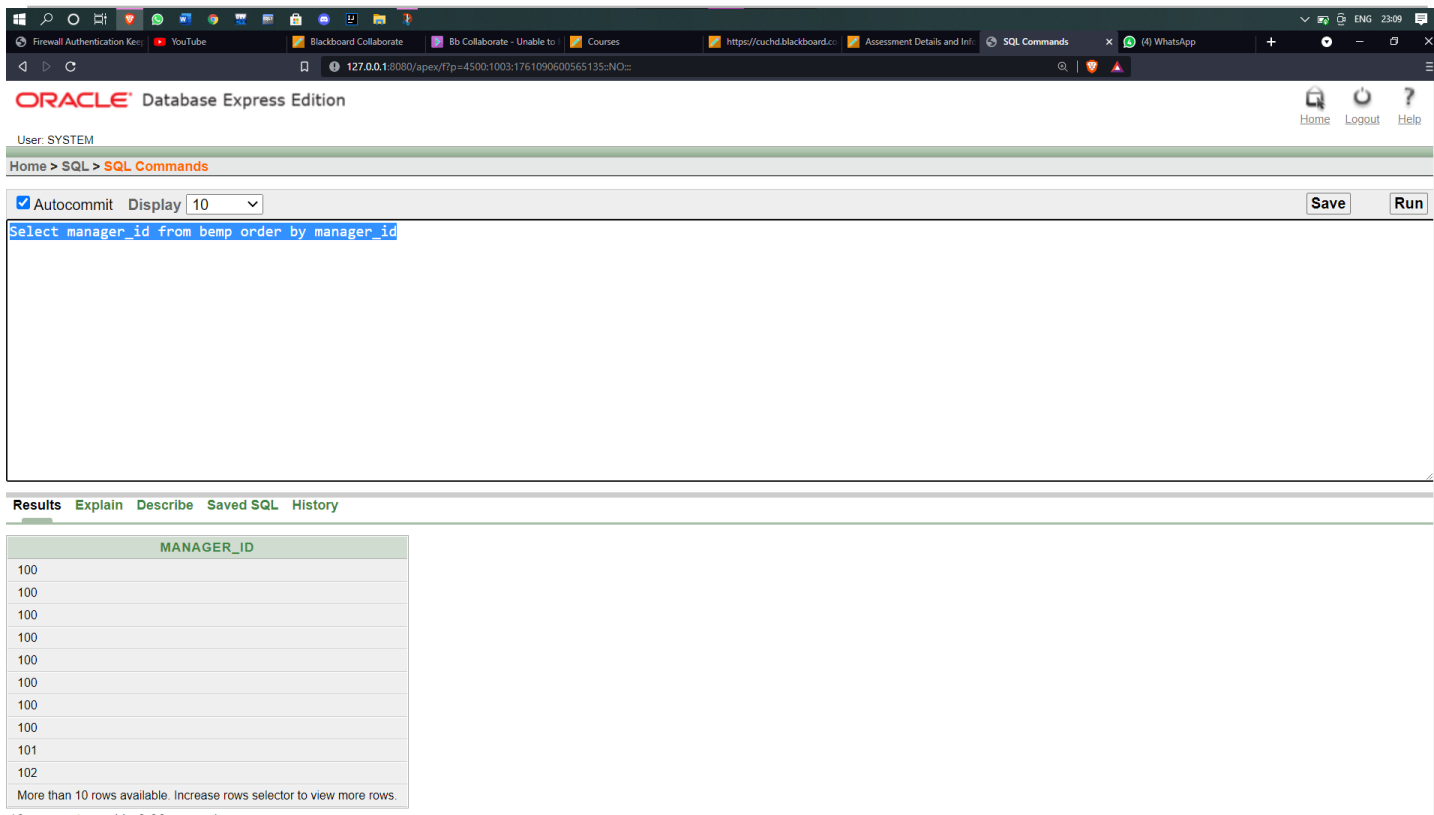**7. ORDER BY**

Purpose: - The ORDER BY statement is used to sort the fetched data in either ascending or descending according to one or more columns.

Syntax: - *Select <column1>,function name(<column name>) from <table name> where condition group by <column name> order by <column name>*

Output –

5. Result/Output/Writing Summary:

We observed the different syntax of implementing the concept of grouping.

Learning outcomes (What I have learnt):

1. After completing this experiment we get to know SQL commands and its implementation on objects like group by and their different types like count, sum, max, min and average.

2. Learned about how to perform group by and order by within one query.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			