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UCS1412 – Database Lab ***Assignment – 2***		***Assigned: 03-Jan-20***
Title: DML Basics		

DML Basics

Part – I : DML Update operations & TCL statements

Consider the Classes relation that can be described as below:

The relation *Classes* records the name of the class – ship class, the type of ships (bb for battleship or bc for battle cruiser), the country that built the ship, the number of main guns, the bore (diameter of the gun barrel, in inches) of the main guns, and the displacement (weight, in tons).

Note: Define the relation *Classes* appropriately to accommodate the following tuples:

Class	***type***	***country***	***numGuns***	***bore***	***displacement***
Bismark	bb	Germany	8	14	32000
Iowa	bb	USA	9	16	46000
Kongo	bc	Japan	8	15	42000
North Carolina	bb	USA	9	16	37000
Revenge	bb	Gt. Britain	8	15	29000
Renown	bc	Gt. Britain	6	15	32000

1. Add first two tuples from the above sample data. List the columns explicitly in the INSERT clause. (No ordering of columns)
2. Populate the relation with the remaining set of tuples. This time, do not list the columns in the INSERT clause.
3. Display the populated relation.
4. Mark an intermediate point here in this transaction.
5. Change the displacement of Bismark to 34000.
6. For the battleships having at least 9 number of guns or the ships with at least 15 inch bore, increase the displacement by 10%. Verify your changes to the table.
7. Delete Kongo class of ship from Classes table.
8. Display your changes to the table.
9. Discard the recent updates to the relation without discarding the earlier INSERT operation(s).
10. Commit the changes.

Part – II : DML Retrieval operations

Use the *employees.sql* to create the database and write the SQL statements for the following:

11. Display firsy name, job id and salary of all the employees.
12. Display the id, name(first & last), salary and annual salary of all the employees. Sort the employees by first name. Label the columns as shown below:
    (EMPLOYEE_ID, FULL NAME, MONTHLY SAL, ANNUAL SALARY)
13. List the different jobs in which the employees are working for.
14. Display the id, first name, job id, salary and commission of employees who are earning commissions.
15. Display the details (id, first name, job id, salary and dept id) of employees who are MANAGERS.
16. Display the details of employees other than sales representatives (id, first name, hire date, job id, salary and dept id) who are hired after '01-May-1999' or whose salary is at least 10000.
17. Display the employee details (first name, salary, hire date and dept id) whose salary falls in the range of 5000 to 15000 and his/her name begins with any of characters (A,J,K,S). Sort the output by first name.
18. Display the experience of employees in no. of years and months who were hired after 1998. Label the columns as: (EMPLOYEE_ID, FIRST_NAME, HIRE_DATE, EXP-YRS, EXP-MONTHS)
19. Display the total number of departments.
20. Show the number of employees hired by year-wise. Sort the result by year-wise.
21. Display the minimum, maximum and average salary, number of employees for each department. Exclude the employee(s) who are not in any department. Include the department(s) with at least 2 employees and the average salary is more than 10000. Sort the result by minimum salary in descending order.

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Learning Outcomes:

After completion of this assignment, students will be able to:

a) Update operations such as INSERT, UPDATE, DELETE
b) Controlling the transactions using COMMIT, SAVEPOINT, ROLLBACK
c) Write SELECT Clause
    i) Using arithmetic operators, logical operators
    ii) Using LIKE, BETWEEN, IN keywords
    iii) Using Character, Date, Number and Aggregate functions
    iv) Using GROUP BY, HAVING, ORDER BY