Alter Final Exam Cheatsheet

Wednesday, August 7, 2024 9:04 AM

[F] 1. COUNT (E.dno) does not count the duplicate dno values.
[T] 2. COUNT (E.dno) does not count Null values.
[F] 3. Group By will ignore NULL values if there are Nulls in the Group By column.
[F] 4. In three levels of the architecture of RDBMS, Table schema belongs to Internal Physical level.
[F] 5. Once a view is created with a Select query, it is final. You cannot change the content or the schema of the existing view unless you drop it and recreate again with the same view name.
[F] 6. View is temporary, so once it is created, it lasts only during the session. Once you log out, all the views you created since you logged in are dropped. Next time you log in again, they are gone from your database.
[T] 7. View is always updated. That is, if two newly hired employee tuples are inserted into the table Employee after the view VDept_Info was created, the column values for No_of_Emps and Total_Sal of the view VDept_Info are automatically updated with the changes of the Employee table when you submit the query: Select * from VDept_Info; [F] 8. For the department dnumber 7 that no employee is working for, Sum (E.salary) will return 0.
[F] 9. When you want to change Dept_Name 'Automation' of the view VDept_Info to 'Development' after the view VDept_Info was created, you can directly update it to the view VDept_Info with "Update VDept_Info Set Dept_Name = ...".
[T] 10.To process the query Q1 below, the nested Subquery in Q1 can be evaluated only once at the beginning, then the saved result of the subquery can be used to evaluate the rest of the outer query all at once.

Q1: SELECT E.SSN, E.LNAME
FROM EMPLOYEE E
WHERE 1 <= (SELECT COUNT(D.Essn)
FROM Dependent D
WHERE E.ssn = D.Essn);

For each department that has more than 2 employees, retrieve the department name and its employees (ssn and last name) who are making more than $40,000.

Q2:
Select Distinct D.dname, E.ssn, E.lname
From Employee E, Department D
Where E.salary > 40000 and
E.Dno = D.Dnumber and
E.Dno in (Select E1.Dno
From Employee E1, Department D1
Where E1. Dno = D1. Dnumber
1) GROUP BY E1.Dno
2) HAVING(E1.DNO)>2);

T1.a1	T1.b1
1	1
2	1
3	2

T2.a2	T2. b2
1	2
3	1
3	3
4	4

Q1: Select * From T1 Left Outer Join T2 On T1.a1 = T2.a2;

T1.a1	T1.b1	T2.a2	T2.b2
1	1	1	2
2	1	NULL	NULL
3	2	3	1
3	2	3	2

Q2: Select * From T1 Right Outer Join T2 On T1.a1 = T2.a2;

T1.a1	T1.b1	T2.a2	T2.b2
1	1	1	2
3	2	3	1
3	2	3	3
NULL	NULL	4	4

Department

DNAME	DNumber	Dmgr Ssn
Research	5	
Administration	4	
Headquarter	1	

Dept_Location

DNumber	DLocation
5	Bellaire
5	Sugarland
5	Houston
4	Stafford
4	Cleveland
1	Houston

```
CREATE TABLE Department (
    Dname VARCHAR(255) NOT NULL,
    Dnumber INT PRIMARY KEY,
    Dmgr_ssn CHAR(9) NOT NULL
);
```

```
CREATE TABLE Dept_Location (
    Dnumber INT,
    DLocation VARCHAR(255),
    PRIMARY KEY (Dnumber, DLocation),
    FOREIGN KEY (Dnumber) REFERENCES Department(Dnumber));
```

JDBC (Java Database Connectivity) provides its API with Java.SQL classes to allow a java application to play as a Client to a RDBMS Server. Complete the following JDBC codes to write the output in a console as below:

```
import java.sql.Connection; ...
public class MyJDBCSQLConnection {
public static void main(String[] args) throws ClassNotFoundException,
SQLException {
Class.forName("com.mysql.jdbc.Driver");
Connection cnn = DriverManager.getConnection(
"jdbc:mysql://localhost:3306/company", "csuperson", "euclid");
if (cnn == null) {
System.out.println("Problems: No connection...");
System.exit(0);
}
System.out.println("Success: connection is available...");
Statement stmt = cnn.createStatement();
String mySQL = (1) "_Select * from employee where dno = ? ";
PreparedStatement stm = (2) cnn.prepareStatement (mySQL,
ResultSet.FETCH_FORWARD); stm.setString(1, "4");
(3) ResultSet rs = stm.executeQuery();
 System.out.println("\nPreparedStatement - Employees working for Dno 4\n");
(4) while (rs.next()) { System.out .println(rs.getString("ssn") + " " +
rs.getString("dno") + " " + rs.getString("Fname") + " " + rs.getString("Lname")); }
rs.close(); cnn.close(); } //Main
```