CS & IT ENGINEERING

Database Management System

Query Language

DPP – 02 Discussion Notes

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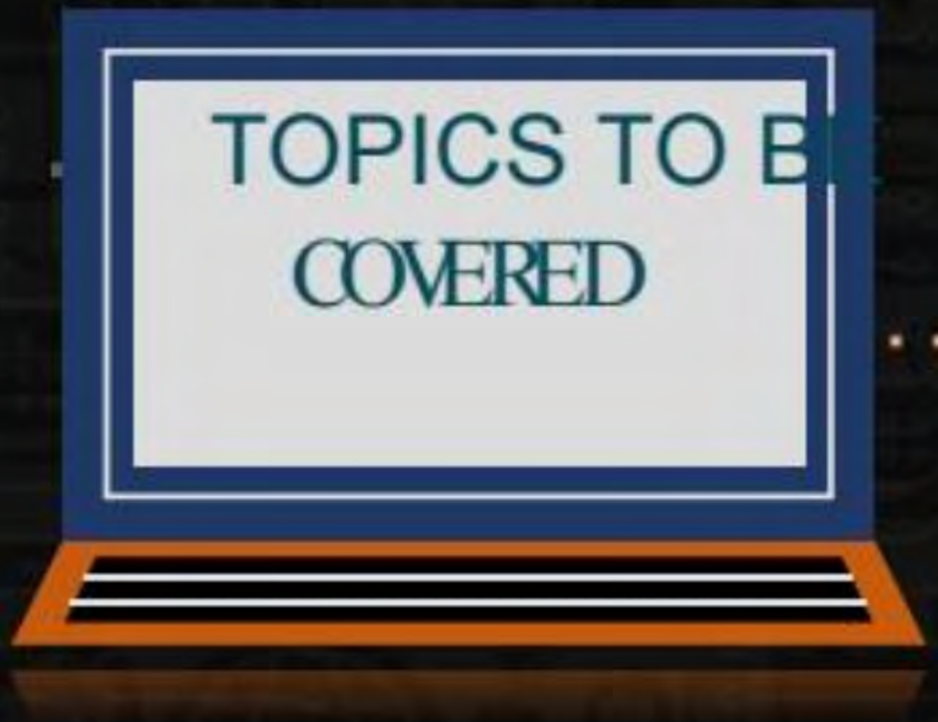

01 Question

02 Discussion

Q.1

[MCQ]

Consider the following keywords.

A. SELECT
B. TOP
C. DISTINCT
D. FROM
E. WHERE
F. GROUP BY
G. HAVING H. ORDER BY

The above keywords are used in the given SQL query below.

```
SLECT TOP NumberOfRows DISTINCT Col1, Col2
FROM TableNameX, TableNameY
GROUP BY ColumnName
HAVING expression
ORDER BY ColumnName;
```

Which of the following is the correct query execution order according to SQL Standard?

D - FROM
E - WHERE
F - GROUP By
G : Having
A : SELECT
C : DISTINCT
H : ORDER By
B : TOP

Ans (B)

A. D E F G A H B C

B. D E F G A C H B

C. D E F G A B C H

D. A D E F G H C B

Q.2

Consider the following employee table

[MSQ]

Employees (EMPID, EmpName, Sal, DeptID, ManagerID) assume that EMPID is primary key of relation. which of the following SELECT statements is/are invalid?

A. SELECT ManagerID, DeptID FROM employees; → Valid

B. SELECT ManagerID, DISTINCT DeptID FROM employees; → Invalid

C. SELECT DISTINCT ManagerID, DISTINCT DeptID FROM employees; → Invalid

D. SELECT DISTINCT ManagerID, DeptID FROM employees; → Valid

Ans (b) & (c)

Q.3 [MSQ]

Consider the following product relation

Products (PID,PName, Cost)

Assume that PID is a primary key of relation. Which SELECT statement should we used to limit the display of product information to the product having price/cost less than 50?

A. SELECT PID, PName FROM Products WHERE Cost < 50;

B. SELECT PID, PName FROM Products WHERE Cost<=50;

C. SELECT PID, PName FROM Products WHERE PID IN (SELECT PID FROM Products WHERE Cost <50);

D. SELECT PID, PName FROM Products GROUP BY PID Having Cost < 50;

Q.4

[MCQ]

The Employees table contains these columns

empID NUMBERS (4)

LastNameVARCHAR (25)

JobID VARCHAR (10)

Suppose that, you want to search for string that contains 'Negi' in the LastName column which SQL statement will be used?

A. SELECT empID, LastName, JobID FROM employees WHERE LastName LIKE '%Negi'; → End with Negi.

B. SELECT empID, lastName, JobID FROM employees WHERE LastName = 'Negi_%';

C. SELECT empID, lastName, JobID FROM employees WHERE LastName LIKE 'Negi'; (OR) % Negi %

Ans (C).

D. None of these

% : Zero or More Character.

_ : Exactly One Character.

LIKE

% Negi

@ Denote the Last Name end with Negi

© LAST Name LIKE Negi ✓

% Negi %

Q.5

Consider a relation A(P,Q) currently has tuples {(1, 2), (1, 3), (3, 4) } and relation B(Q, R) currently has {(2, 5), (4, 6), (7, 8)}. Then the number of tuples in the result of the SQL query: SELECT * FROM A NATURAL OUTER JOIN B; is ___4___? [NAT]

Ans(4).

A(PQ)

P	Q
1	2
1	3
3	4

B(QR)

Q	R
2	5
4	6
7	8

$A \times B$ = 3×3 = 9 Tuples

2+2 = 4 Attribute.

$R \bowtie S =$

$\Pi_{PQR}\left[\sigma_{A.Q=B.Q}(R \times S)\right]$

Step3 ↑ Step2 ↑ Step1

Step1

A.P	A.Q	B.Q	B.R
1	2	2	5
1	2	4	6
1	2	7	8
1	3	2	5
1	3	4	6
1	3	7	8
3	4	2	5
3	4	4	6
3	4	7	8

Step2

A.P	A.Q	B.Q	B.R
1	2	2	5
3	4	4	6

Q.5

Consider a relation A(P,Q) currently has tuples {(1, 2), (1, 3), (3, 4) } and relation B(Q, R) currently has {(2, 5), (4, 6), (7, 8)}. Then the number of tuples in the result of the SQL query: SELECT * FROM A NATURAL OUTER JOIN B; is_____? **[NAT]**

A(PQ)

P	Q
1	2
1	3
3	4

B(QR)

Q	R
2	5
4	6
7	8

P	Q	R
1	2	5
3	4	6
1	3	NULL
NULL	7	8

(4)

$R \bowtie S =$

$\Pi_{PQR}\left(\sigma_{A.Q=B.Q}(R \times S)\right)$

$R \bowtie S \Rightarrow$

$R \bowtie S$

P	Q	R
1	2	5
3	4	6

step 3

Q.6

Which of the following statement is/are true about constraints?

[MSQ]

A. The constraints is applied only to INSERT operation into table.

Not only for INSERT, Apply for UPDATE & Delete ⇓ If Ref. Integrity

B. A foreign key can't contain NULL values.

C. A column with the unique constraint can store NULLS.

D. We can have more than one column in a table as a part of primary key.

If mention Primary key ⇒ (Unique + Not Null)

→ But Here Only Unique Constraint So allow NULL.

Any [C] & (D)

F.K can have NULL value.

Primary key can be Composite [e.g AB is Primary key]

Q.7 [MCQ]

Consider the following statements

S1: An INSERT statement can add multiple rows per execution to a table.

S2: An UPDATE Statement can modify multiple rows based on multiple condition on a table.

Choose the correct statements.

EMP (eno , ename , Salary)

INSERT into Table <attri_1 , attr_2 attribute_3>

(eg)

INSERT into EMP < 1, A, 11000 >

INSERT into EMP < 2, B, 20000 >

A. Only S_1 is true

B. Only S_2 is true

C. Both S_1 is S_2 are true

Ans [C]

D. Both S_1 and S_2 are false

Q.8 [MCQ]

Consider the following statements.

S_1: A DELETE statement can remove rows based on a single condition on a table

S_2: An INSERT statement can add a single row based on multiple condition on a table.

Choose the correct statements

A. Only S_1 is true

B. Only S_2 is true

C. Both S_1 and S_2 are true

D. Both S_1 and S_2 are false

Q.9

Which of the below statement are true regarding the WHERE and HAVING clause in a SQL statement? [MSQ]

A. WHERE and HAVING clause can't be used together in SQL Statement.

B. The HAVING clause condition can have aggregate function.

C. The WHERE clause is used to exclude rows before the grouping of data.

D. The HAVING clause is used to exclude one or more aggregated results after grouping data.

Ans (B) (C) & (D)

Q.10

Given the database schema A(P,Q,R) which of the following SQL query can be used to test whether the functional dependency P→R holds on relation A? [MCQ]

A(PQR)

A. Select P from A group by P having count (distinct R) >1

B. Selects P from A group by A having count (distinct R) >1

C. Select R from A group by P having count (distinct R) >1

D. None of the above

Ans(A)

P	Q
2	5
2	5
2	6


THANK YOU GW
SOLDIERS !