

CS & IT ENGINEERING



Database Management System

Query Languages

DPP-02 Discussion Notes

By– Mili Dhara Ma'am



#Q. Consider the following keywords.

- ⑤ A. SELECT
- ⑧ B. TOP
- ⑥ C. DISTINCT
- ① D. FROM
- ② E. WHERE
- ③ F. GROUP BY
- ④ G. HAVING H. ORDER BY

↓ Col 1 ↓ Col 2
10 tuples
c cost

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

SELECT 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?

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

X D A D E F G H C B

#Q. Consider the following employee table

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

X **A**

SELECT ManagerID, DeptID FROM employees;

→ DISTINCT
↓

✓ **B**

SELECT ManagerID, DISTINCT DeptID FROM employees;

✓ **C**

SELECT DISTINCT ManagerID, DISTINCT DeptID FROM employees;

X **D**

SELECT DISTINCT ManagerID, DeptID FROM employees;

#Q. 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;

Handwritten notes for option D: An arrow points from 'PName' to 'count(PName)'. Another arrow points from 'PID' to 'Having'.

#Q. The Employees table contains these columns

empID NUMBERS (4)

LastName VARCHAR (25)

JobID VARCHAR (10)

% — any collection of characters

abcNegi — Negi —→ exactly one character

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';
- ☐ **B** SELECT empID, LastName, JobID FROM employees WHERE LastName = 'Negi_%';
- ☒ **C** SELECT empID, LastName, JobID FROM employees WHERE LastName LIKE 'Negi';
- ☐ **D** None of these

#Q. 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?

A (P, Q)	B (Q, R)
✓ 1 2	→ 2 5 ✓
✓ 1 3	→ 4 6 ✓
✓ 3 4	→ 7 8

A ~~≠~~ B

4

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

FULL

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

INSERT
UPDATE

UNIQUE
NOT NULL

Stud ID
P

UNIQUE
NOT NULL
R(A, B, C)

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

☒ **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.

A
1
2
N
3
N

CK = (AB)
PK

#Q. 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.

INSERT

A

Only S₁ is true

B

Only S₂ is true

~~**C**~~

Both S₁ and S₂ are true

D

Both S₁ and S₂ are false

#Q. Consider the following statements

- ~~S₁~~: A DELETE statement can remove rows based on a single condition on a table
- ~~S₂~~: An INSERT statement can add a single row based on multiple condition on a table.

Choose the correct statements.

$$[c_1 \wedge c_2 \wedge c_3]$$

A

Only S₁ is true

B

Only S₂ is true

~~**C**~~

Both S₁ and S₂ are true

D

Both S₁ and S₂ are false

#Q. Which of the below statement are true regarding the WHERE and HAVING clause in a SQL statement ?

Group 1 Count () = 5 X

- X **A** WHERE and HAVING clause can't be used together in SQL Statement.
- B** The HAVING clause condition can have aggregate function. Q1
- 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.

#Q. Given the database schema $A(P, Q, R)$ which of the following SQL query can be used to test whether the functional dependency $P \rightarrow R$ holds on relation A?

☒ **A**

Select P from A group by P having count (distinct ⁽⁵⁾ 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

Handwritten table illustrating data for relation A, with columns P and R. The table shows multiple rows where P is 1, 2, or 3, and R is 5, 3, or 4. The table is annotated with pink lines and arrows indicating functional dependencies.

P	R
1	5
2	3
1	5
1	5
2	3
3	4
3	5
3	3



THANK - YOU