CS310-DBMS   END SEM

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① → Using emp name as a clustered index is possible only when every employee will have a unique name. If it is present then tuple will be organized alphabetically.

→ Using empId as a clustered index is definitely possible when everyone already has unique ID. Then Tuples will be organized according to Emp Id.

→ It is not possible to have both Clustered Index {emp name, & Emp Id}. It is possible to have one clustered Index & one non clustered Index.

②
→ DDL is important in representing information in DBMS because it is used to describe external and logical schemas.

→ DML is used to update and   data: it is not important for representing data.

③ True

DBMS is typically shared among many users. Transactions from these users can be interleaved to improve the execution time of users queries. By interleaving queries users do not have to wait for other users transactions to complete fully before their own transaction begins.

Without interleaving, if user A begins a transaction that will take 10 seconds to Complete, and user B wants to begin a, user B would have to wait an additional 10 seconds for user A's transaction to Complete before the database would begin processing user B's request.

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4)

a) A user must guarantee that his transaction doesnot corrupt data or insert anything in the database. For example, in banking database a user must guarantee that a cash withdrawn transaction accurately models the amount of a person removes from his account. A database would be worthless if a person removed 200 Ruppees from an ATM but the transaction set their balance to 0.

b) A DBBMS must guarantee that transactions are executed completely and independently of other transactions. An essential property of a DBMS is that a transaction should execute atomically, or as if it is the only transaction running. Also, either transactions will either complete fully, or will be aborted and the database returned to its initial state. This ensures the database remains constant.

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⑥ Create CLUSTERED INDEX ix_studentName on
   Student_table (student Name)

   { student_table ⊃ Name of table } Assuming

   → (1005, Krishna, krishna@pgr.com 22)
     (1030, John, Null, 23)
     (1020, John, Jh@xyz.com, 22)

⑤ We cannot determine a key of a relation
   given only one instance of the
   relation.

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(7) Pids of parts that are supplied by atleast two different suppliers. in Relational Algebra:

$$\pi_{R_1.pid}\left(\sigma_{R_1.Pid = R_2.Pid \land R_1.sid \neq R_2.sid}\left(\rho_{R_1} Catalog \times \rho_{R_2} Catalog\right)\right)$$

In SQL:

```
SELECT C.pid
FROM Catalog C
WHERE EXISTS (SELECT C1.sid
              FROM Catalog C1
              WHERE C1.pid = C.pid AND
                                C1.sid ≠ C.sid)
```

(8) Names of the suppliers who supply Red parts and which costs less than 100.

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(9) CREATE view Emp_view as select eid, ename, age, salary from Emp

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