

DBMS - End-Sem Exam

Reg. No = 19BCS108

Name = Uttam Kumar Jangid

Q.3 Ans \Rightarrow True \Rightarrow A DBMS is typically shared among many users. Transactions from these users can be interleaved to improve the execution time of all 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 transaction, 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 requests.

Q.4 Ans

A) A user must guarantee that his or her transaction does not corrupt data or insert nonsense in the database. For example, in a banking database, a user must guarantee that a cash withdraw transaction accurately models the amount a person removes from his or her account.

Q4 Ans B A database application would be worthless if account a person removed 20 dollars from an ATM but the transaction set their balance to zero. A DBMS must guarantee that transactions are executed fully 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, transactions will either complete fully, or will be aborted and the database returned to its initial state. This ensures that the database remains consistent.

Q1 Ans Using Empname as clustered index is possible only when every employee will have a unique name. If this is ensured, the inputs will be organized according to Empname alphabetically.

Using Empid as a clustered index is definitely possible. Assuming every emp already has a unique id assigned to them, the tuples will be organized according to Empid.

Using both the Empname & Empid as a clustered index may not be possible but it is possible to have one clustered index and one non-clustered index.

Q.2 Ans a) The data definition language is important in representing information because it is used to describe external and logical schemas.

Q.2 Ans

The DML is used to access and update data. It is not important for representing the data. (Of course, the data manipulation language must be aware of how data is represented, and reflects this in the constructs that it supports.)

Q.3 Ans

```
CREATE VIEW Senior Emp(eid, name, age, salary)
AS SELECT E.eid, E.name, E.age, E.salary
FROM Emp E
where E.age > 50;
```

Q.8 Code Log

SID	PID	Cost
1	1	\$ 10.00
1	2	\$ 20.00
1	3	\$ 30.00
1	4	\$ 40.00
1	5	\$ 50.00
2	1	\$ 9.00
2	3	\$ 30.00
2	5	\$ 42.00

parts

PID	Pname	Color
1	Red 1	Red
2	Red 2	Red
3	Green 1	Green
4	Blue 1	Blue
5	Red 3	Red

SID	name	Address
1	Yasvika Sham	Denville Canyon AZ
2	Willey E. Corbett	RR Asylum, NV
3	Elmer Fudd	Cassant Patch, MN

Q-1

$P(R_1, \text{Catalog})$

$P(R_2, \text{Catalog})$

$\Pi R_1 \cdot \text{pid} \neq R_1 \cdot \text{pid} = R_2 \cdot \text{pid} \wedge R_1 \cdot \text{sid} \neq R_2 \cdot \text{sid} / R_1 \times R_2$

SID	PID	Cost
1	1	\$ 10.00
2	1	\$ 9.00
2	3	\$ 34.00
3	1	\$ 11.00

Q-1 Ans

Select C.pid

FROM Catalog C

where EXISTS (Select C1.sid

from Catalog C1

where C1.pid = C.pid And

C1.sid \neq C.sid)

Q-2 Ans

Find the Suppliers name of the Suppliers who

Supply a red part that Cause less than \$100 dollars.