Database design and development

WO11 Assignment

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For the multiuser to perform reads and write database without converting each other`s changes, locks are used to maximize the performance.

Forxample(from Oracle):

Readers do not wait for writers (or other readers of the same data.)

Writers do not wait for readers (of the same data)

The database readers receive a read lock to a query data and database writer receive or write a lock to modify data.

While the write lock is on, all read requests for that database is blocked until a write lock is released.

Versioning is also applied where reader will not see the updates when others are modifying data.

Lock granularity is provided in tables by keeping multiple users from modifying data in the same table at the same time, and in rows its by keeping multiple users from modifying the same row in a table at the same time.

Also for pages is by keeping multiple users from modifying data on the same page of a table at the same time.

The transaction exists in the insert, update and delete SQL statements in order to return back a safe mode if there is any error occurred in the middle of the SQL code. In this case in a transaction query, a ROLLBACK statement is used to return back to the main menu.

Forxample:

START TRANSACTION

UPDATE account SET avail\_balance = avail\_balance -1000

WHERE account\_id = 7075

IF <the process above is updated> THEN

COMMIT;

ELSE /\*error encountered\*/

ROLLBACK;

END IF;