

EPL646 – Advanced Topics in Databases

Query Optimizer

<http://www.cs.ucy.ac.cy/~dzeina/courses/epl646/labs/lab.html>



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Exercise 16.1

(Exercise 16.1) Give brief answers to the following questions:

- a. What is a transaction? In what ways is it different from an ordinary program (in a language such as C)?
- b. Define these terms: atomicity, consistency, isolation, durability, schedule, blind write, dirty read, unrepeatable read, serializable schedule, recoverable schedule.

Exercise 16.2

(Exercise 16.2) Consider the following actions taken by transaction T 1 on database objects X and Y :

$R(X), W(X), R(Y), W(Y)$

- a. Give an example of another transaction T 2 that, if run concurrently to transaction T with-out some form of concurrency control, could interfere with T 1.

Exercise 16.3

(Exercise 16.3) Consider a database with objects X and Y and assume that there are two transactions T1 and T2. Transaction T1 reads objects X and Y and then writes object X. Transaction T2 reads objects X and Y and then writes objects X and Y.

- a. Give an example schedule with actions of transactions T1 and T2 on objects X and Y that results in a write-read conflict.
- b. Give an example schedule with actions of transactions T1 and T2 on objects X and Y that results in a read-write conflict.
- c. Give an example schedule with actions of transactions T1 and T2 on objects X and Y that results in a write-write conflict.

Questions?

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