

# Reading Homework 15 (Due Monday May 7, 3:20PM)

**Due** May 7, 2018 at 3:20pm**Points** 11**Questions** 11**Time Limit** None

## Instructions

This quiz covers content from chapters 14.1-14.5 of your textbook.

## Attempt History

	Attempt	Time	Score
<b>LATEST</b>	<a href="#">Attempt 1</a>	3 minutes	8 out of 11

Score for this quiz: **8** out of 11

Submitted May 7, 2018 at 2:31pm

This attempt took 3 minutes.

For each of the following scenarios, select all ACID properties that are violated. There is always at least one correct answer, so although some of the scenarios below may be explained by problems unrelated to the database system, assume that in each case, the database system made at least one mistake related to the ACID properties.

### Question 1

**1 / 1 pts**

A transaction updates record X to 10, and then shortly afterwards to 20 and commits successfully. A different transaction reads the value of X during the brief time window when the value was 10.

☐ atomicity

☐ consistency

**Correct!**☒ isolation☐ durability**Question 2****1 / 1 pts**

In case the gif above doesn't animate for you, it is a video of 3 men apparently destroying a database server.

☐ atomicity☐ consistency☐ isolation☒ durability**Correct!****Question 3****0 / 1 pts**

A transaction that transfers \$500,000 from account A to account B removes \$500,000 from A but before it adds that amount to B, the transaction code reaches an infinite loop and never completes. The customer who owns account A receives a statement from the bank showing that the money was

removed from his account, but yet also receives a visit from the same three guys from the animated gif from the previous question who demand payment of the money owed to B.

Correct!

You Answered

☒ atomicity

☒ consistency

Consistency is not a good answer for this question, since it is defined in 14.1 in terms of the transaction running in isolation. The only way that the inconsistent state became viewable was because of another transaction that ran concurrently with it (whatever transaction that generated the bank statement while this transfer transaction was still running).

Correct Answer

☐ isolation

☐ durability

#### Question 4

0 / 1 pts

Twitter makes you go and change your password due to the fact that they stupidly were logging passwords unencrypted before hashing them. One hour after you change your password, you try logging in with your old password and it doesn't work, but when you log in with your new one, it works. But then, two hours later, you try to log in again, and the new password doesn't work anymore, but the old password works.

You Answered

☒ atomicity

☐ consistency

☐ isolation

Correct Answer

☐ durability

**Question 5****1 / 1 pts**

The recovery system module of the database system always returns null whenever any of its functions are called.

**Correct!**☒ atomicity☐ consistency**Correct!**☒ durability**Question 6****1 / 1 pts**

Preserving application-dependent consistency constraints is primarily the responsibility of the application programmer.

**Correct!**☒ True☐ False**Question 7****1 / 1 pts**

It is always possible to use compensating transactions to undo effects of committed transactions.

☐ True**Correct!**☒ False

**Question 8****1 / 1 pts**

A transaction that is in the "failed" state can never be "committed".

**Correct!**
☒ True

☐ False
**Question 9****1 / 1 pts**

The schedule below is equivalent to a serial schedule.

T1	T2
READ(A)	
	READ(A)
	A := A + 5
	WRITE(A)
	commit
A := A - 5	
WRITE(A)	
commit	

☐ True
**Correct!**
☒ False
**Question 10****1 / 1 pts**

The schedule below is equivalent to a serial schedule.

T1	T2

READ(A)	
	READ(A)
	A := A + 5
A := A - 5	
WRITE(A)	
	WRITE(A)
	commit
commit	

☐ True

☒ False

Correct!

### Question 11

0 / 1 pts

The schedule below is equivalent to a serial schedule.

T1	T2
READ(A)	
A := A - 5	
WRITE(A)	
	READ(A)
	A := A + 5
	WRITE(A)
	commit
commit	

☐ True

☒ False

Correct Answer

You Answered

Quiz Score: 8 out of 11

