Reading Homework 8 (Due Wednesday March 14, 3:20PM)

Due Mar 14, 2018 at 3:20pm **Points** 9 **Questions** 7 **Time Limit** None

Instructions

This quiz covers Sections 10.1, 10.2, and **this webpage (http://cse1.net/recaps/4-memory.html)** (links to an external site) which surveys the same topic with a more modern discussion. You may wish to read the webpage first, and then skim through the book chapter, which is fine, but make sure you look closely at the last paragraph of 10.1 (that discusses "volatile storage"), all of 10.2.2, and the first two paragraphs of 10.2.3 (that discuss sequential vs. random access patterns) which are going to be important in later material we discuss this semester and are not well-covered by the webpage.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	12 minutes	9 out of 9

Score for this quiz: **9** out of 9
Submitted Mar 18, 2018 at 10:32pm
This attempt took 12 minutes.

Question 1 — 1 / 1 pts

All CPUs are required to have three levels of caches, L1, L2, and L3.

- True
- False

Correct!

Question 2 — 1 / 1 pts

The fastest memory available to a CPU is the registers.

Correct!

- (•) True
- ( ) False

Question 3

1 / 1 pts

SATA cables are typically slower than PATA and can only handle upto 133 MB/s data transfer rates from disk.

- ( ) True
- (•) False

Correct!

Question 4

2 / 2 pts

A disk has an average seek time of 5ms, and rotates at 12000 rpm. Compute the average number of "random accesses" possible per second.
This is computed by finding the "access time" and dividing 1s by that. Access time itself is computed as described in section 10.2.2 of your textbook.

- ( ) 66.66
- ( ) 100
- (•) 133.33
- ( ) 166.66

Correct!

Question 5

1 / 1 pts

Accessing sequential sectors (on the same track) on a magnetic disk is much faster than accessing random sectors, because no seek time (for the head to move) is needed (after the first sector of the sequential set of sectors on the same track has been read).

Correct!

- (●) True
- ( ) False

Question 6

1 / 1 pts

The difference between random access and sequential access on solid state drives is smaller than magnetic disks, because SSDs have no disk head that needs to move during a random access.

Correct!

- (●) True
- ( ) False

Question 7

2 / 2 pts

Assume that a computer/server has all of the types of storage mentioned in your reading assignment. Power is then removed from the machine (and it does not have battery backup), such that the machine is suddenly turned off.

Select all of the following types of storage that will lose their data as a result of the power-loss:

Correct!

- [x] CPU Registers
- [ ] HDD

Correct!

- [x] RAM

Correct!

- [x] L1 Cache

Correct!

- [x] L2 Cache
- [ ] SDD

Quiz Score: **9** out of 9