Quiz 8 Buffer Management and Indexing

Due Nov 1 at 10:30am

Points 100

Questions 10

Available Nov 1 at 10am - Nov 1 at 10:30am 30 minutes

Time Limit None

Allowed Attempts Unlimited

Instructions

This is a 30 minutes quiz containing True/False and Multiple Choice questions.

Having an issue with the quiz? Please send an email to the course staff (rkheni@wpi.edu) (mailto:cvieira@wpi.edu) with "CS542 Quiz" included in the subject line any time during the quiz. If you require help through zoom then please join the zoom link https://wpi.zoom.us/j/2094237642 ⇒ (https://wpi.zoom.us/j/2094237642).

This quiz was locked Nov 1 at 10:30am.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	9 minutes	55 out of 100

Score for this attempt: 55 out of 100

Submitted Nov 1 at 10:10am This attempt took 9 minutes.

	Question 1	5 / 5 pts
	In the buffer manager, the "dirty" flag of each frame is used to whether or not the frame is empty.	specify
	○ True	
Correct!	False	
Correct!		

	Question 2	5 / 5 pts	
	In the buffer manager, a "pinned" frame can be taken out onl other frame is available	y if no	
	O True		
Correct!	False		
	Question 3	5 / 5 pts	
	An ordered column can be indexed using either dense or spanning the sparse index than that of the dense index.		
	O True		
Correct!	False		
	Question 4	5 / 5 pts	
	Secondary indexes typically result in random I/Os whereas primary indexes typically result in sequential I/Os		
Correct!	True		
	○ False		
	Question 5	5 / 5 pts	

	An insert operation in a sequential file that results in creating ar "overflow" block may lead to a change in the index entries	1		
Correct!	True			
	False			
	Question 6	5 / 5 pts		
	For multi-level indexes, all levels except the 1 st level must be de indexes	ense		
	O True			
Correct!	False			
	Question 7 0	/ 20 pts		
	In buffer manager, assume the buffer pool consists of 5 frames, which are all initially empty. The replacement policy is LRU (Least Recently Used). "Read P _i " and Update "P _i " represent requests to read or update the content of disk page P _i , respectively. The following sequence of disk page requests will results in how many disk I/Os in total?			
	Read P_1 , Read P_2 , Update P_1 , Read P_3 , Read P_8 , P_7 , Read P_6 , Read P_2	Read		
orrect Answer	0 8			
ou Answered	9			

Question 8

20 / 20 pts

Assume a relation where the number of its data records is 1,000,000. An index is built on un-sorted column. Each disk block can store <u>50</u> data records or <u>500 index entries</u>.

What is the size of the 2nd level of the index (in terms of disk blocks)?

- **5**
- 2000

Correct!

- **4**
- 6

Question 9

0 / 20 pts

According to the lecture slides, which of these statements is wrong about buffer manager.

The unit of reading and writing between the buffer pool and disk is a disk page

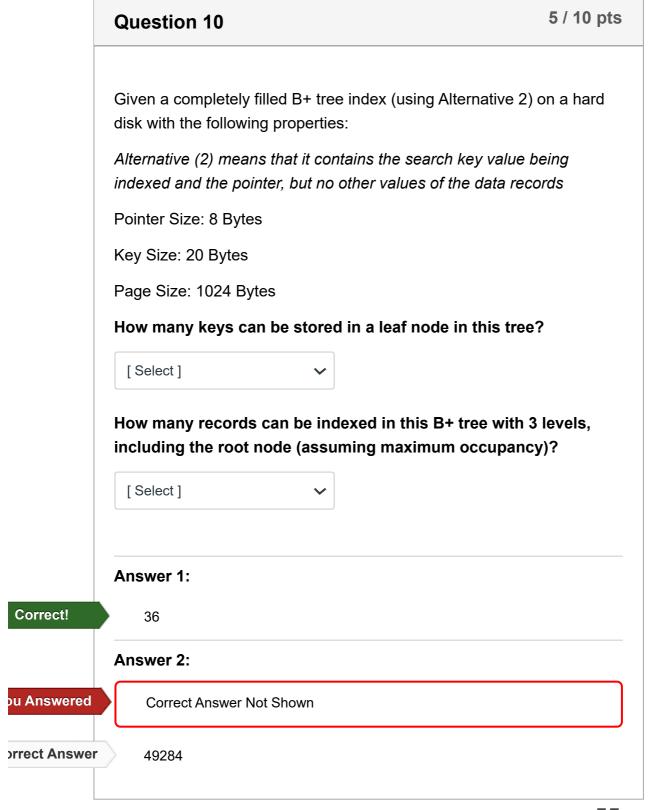
orrect Answer

The buffer manager may decide to evict multiple frames at the same time

ou Answered

A buffer frame can be pinned by multiple transactions

The buffer manager may deny serving a request and queue it for some time



Quiz Score: 55 out of 100