Chapter 5 Quiz

Due Oct 10 at 11:59pm **Points** 100 **Questions** 25 **Time Limit** None
Allowed Attempts 2

Attempt History

	Attempt	Time	Score
KEPT	Attempt 2	13 minutes	96 out of 100
LATEST	Attempt 2	13 minutes	96 out of 100
	Attempt 1	14 minutes	92 out of 100

ⓘ Correct answers will be available on Oct 26 at 12am.

Score for this attempt: **96** out of 100
Submitted Oct 8 at 11:36am
This attempt took 13 minutes.

Incorrect

Question 1 — 0 / 4 pts

When a table is updated and the index block has no free space for a new index entry, what happens?

- (•) An error results.
- ( ) The entry is removed.
- ( ) A new block is merged.
- ( ) The block splits.

Question 2 — 4 / 4 pts

What is the fan-out for a multi-level index where index entries are 32 bytes and index blocks are 10 kilobytes?

- (●) Approximately 300
- ( ) Approximately 400
- ( ) Approximately 200
- ( ) Approximately 500

Question 3

4 / 4 pts

How are blocks read with a single-level index scan?

- ( ) A scan is initiated to read all table blocks that contain index blocks with selected data.
- (●) A scan reads all index blocks to find table blocks that contain selected rows. The table blocks are then read.
- ( ) A scan is initiated to read all table blocks. Index blocks are then read.
- ( ) The search reads one index block plus selected table blocks.

Question 4

4 / 4 pts

What are the performance characteristics of a heap table?

Queries that read table rows in a specific order are optimized versus those that are not.

Insert and delete operations are optimized, but not update and read operations.

Loading single rows from a table is much faster than bulk loading many rows.

Insert, delete, and update operations are optimized, but not read operations.

Question 5

4 / 4 pts

The time required to read or write the first byte of data is known as _____.

transfer rate

access time

random-access

volatility

Question 6

4 / 4 pts

What are two characteristics of an efficient bitmap index?

The database can quickly determine the block containing a table row from the index row number. Any indexed column contains relatively few distinct values.

The WHERE clause may specify any values in upper case. The column used in a WHERE clause may contain mixed upper and lower case characters.

Each bucket initially has one block. Any additional blocks are allocated and linked to the initial block.

Indexes change only when primary key values are updated. Physical indexes change whenever a row moves to a new block.

Question 7

4 / 4 pts

A column contains grades from 0 to 10, but a WHERE clause specifies values from 0 to 100. A _____ index can be used to modify the column values and process the queries.

- logical
- function
- multi-level
- single-level

Question 8

4 / 4 pts

With column-oriented storage, a block stores values for _____.

- key columns only
- all table columns
- non-key columns
- a single column

Question 9

4 / 4 pts

Which table type interleaves rows of two or more tables in the same storage area?

- Sorted tables
- Hash tables
- Table clusters
- Heap tables

Question 10

4 / 4 pts

When performing a search, which scan type is fastest?

- Table

- Row
- Cluster
- Index

Question 11

4 / 4 pts

The sort column in a sorted table determines the _____ row order.

- physical
- key
- linked
- dynamic

Question 12

4 / 4 pts

When working with multi-tables, a column that is available in all interleaved tables is known as a _____?

- hash function
- cluster key
- sort column
- bucket

Question 13

4 / 4 pts

Which table type might use the modulo function to scramble row locations?

- Cluster
- Heap
- Sorted
- Hash

Question 14

4 / 4 pts

Hash index entries are assigned to _____.

- blocks
- buckets
- clusters
- values

Question 15

4 / 4 pts

Which of the following is a characteristic of a B-tree index, but not a B+tree index?

- All column values appear in the bottom level.
- Column values are occasionally repeated in the index.
- Pointers to table blocks appear only in the bottom level.
- Column values do not repeat at lower levels.

Question 16

4 / 4 pts

Data was not saved before a system was accidentally powered off. This data was located in _____.

- magnetic storage media
- flash storage
- non-volatile memory
- volatile memory

Question 17

4 / 4 pts

In order to locate rows selected by a query, an index scan reads index blocks _____.

- randomly
- in reverse order
- sequentially

in order of key values

Question 18

4 / 4 pts

A _____ index is an index on a non-unique sort column.

- secondary
- clustering
- sorted
- primary

Question 19

4 / 4 pts

What is a characteristic of a logical index?

- Each bucket initially has one block.
- Any additional blocks are allocated and linked to the initial block.
- Index does not change when a row moves to a new block.
- The block containing a table row is determined from the index row number.

Question 20

4 / 4 pts

In a logical index, pointers to table blocks are replaced with _____ values.

- foreign key
- composite key
- primary key
- artificial key

Question 21

4 / 4 pts

The bottom level of a multi-level index is a _____index.

- unsorted single-level
- sorted single-level
- bottom-level block
- primary and clustering

Question 22

4 / 4 pts

Branches that are similar in length in an index hierarchy are _____.

- sparse
- primary
- dense

balanced

Question 23

4 / 4 pts

A magnetic disk groups data into _____.

- kilobytes
- sectors
- blocks
- pages

Question 24

4 / 4 pts

A relational database uses row-oriented storage to store an entire row within one _____.

- Table
- sector
- block
- page

Question 25

4 / 4 pts

A single-level index is a file that contains column values and pointers to _____ containing the column _____.

- tables, rows
- blocks, key
- rows, value
- tables, key

Quiz Score: **96** out of 100