17/17 Questions Answered
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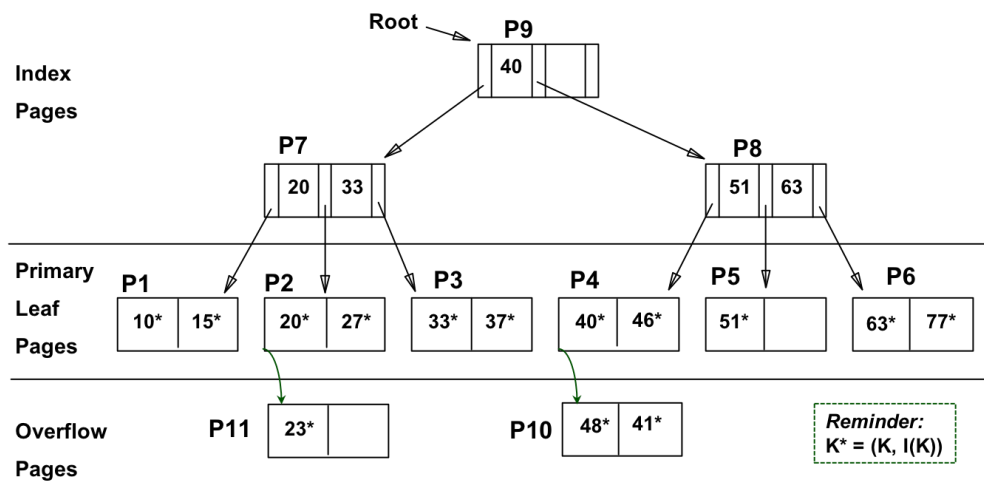
Quiz 7

STUDENT NAME

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Q1 Indexing 101
10 Points

Below you will find an example of an ISAM index (with ridiculously small pages for ease of example-drawing). The pages in the underlying ISAM file are numbered for reference/use in some of the later questions. Each of the questions about storage/indexing in general and ISAM in particular are of the auto-graded variety this time around - - answer each one as best you can!

Q1.1
0.5 Points

A clustered index is one in which the (search key) order of the entries in the index corresponds to the order of the data records themselves in the underlying file for which the index was constructed.

◉ True

○ False

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Q1.2
0.5 Points

It is possible to create several clustered indexes on a given data file.

○ True

◉ False

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Q1.3
0.5 Points

It is possible to create several unclustered indexes on a given data file.

◉ True

○ False

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Q1.4
0.5 Points

A primary index is an index on a table's primary key field(s).

◉ True

○ False

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Q1.5
0.5 Points

An index can only be created on a unique field or field(s), i.e., on a candidate key.

○ True

◉ False

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Q1.6
1 Point

The record id (RID) for a record is made up of which of the following pieces of information?

- ✔ its page id
- ☐ its photo
- ☐ its birthdate
- ☐ its driver's license number
- ✔ its position on the page

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Q1.7
1 Point

Processing a range query (e.g., salary BETWEEN 10000 AND 20000) using a clustered index is always faster than using an unclustered index.

◉ True

◯ False

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Q1.8

0.5 Points

Processing a range query using an unclustered index is always faster than using a file scan.

◯ True

◉ False

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Q1.9

1 Point

Which of the following options are possibilities in principle for I(K) in index entries of the form (K,I(K)) in a secondary index?

✔ A data record

✔ A record id (RID) for a record

✔ A list of record ids (RIDlist)

✔ A primary key (PK) for a record

✔ A list of primary keys (PKlist)

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Q1.10

0.5 Points

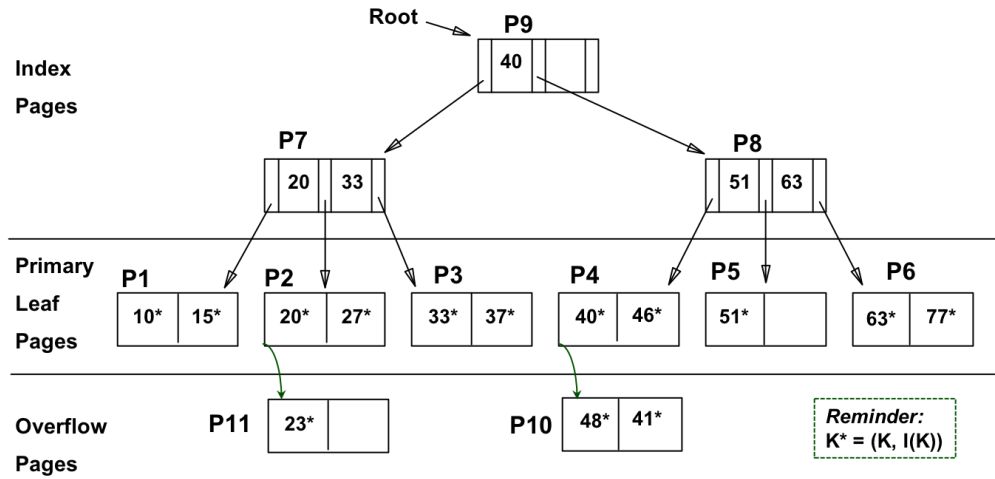Which of the following options make sense for I(K) in a primary or unique index?

✔	A data record

✔	A record id (RID) for a record

☐	A list of record ids (RIDlist)

✔	A primary key (PK) for a record

☐	A list of primary keys (PKlist)

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Q1.11
0.5 Points

A secondary index cannot be a clustered index.

○ True

⊙ False

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Q1.12
0.5 Points

To find the record(s) with an index key value of 51, which pages in which order will the DBMS have to read if it utilizes the ISAM index shown above? (Answer in list form, e.g., say P1,P2,P3 if the answer is page P1 and then P2 and then P3.)

P9,P8,P5

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Q1.13
0.5 Points

On what page will the index entry 61* be stored if a new record with indexed field value 61 is inserted into the ISAM index shown above?

P5

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Q1.14
0.5 Points

On what page will the index entry 32* be stored if a new record with indexed field value 32 is inserted into ISAM index shown above?

P11

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Q1.15
0.5 Points

On what page will the index entry 11* be stored if a new record with indexed field value 11 is inserted into ISAM index shown above?

P12

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Q1.16
0.5 Points

What pages will be read and in what order to process a range query asking for all records with an indexed field value BETWEEN 25 and 35?

P9,P7,P2,P11,P3

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Q1.17
0.5 Points

What does the acronym ISAM stand for? (Be sure to capitalize the first letter of each relevant word in your answer.)

Indexed Sequential Access Method

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Save All Answers   Submit & View Submission ❯