

Database Technology

Topic 1: Fundamental Concepts

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Quizzes

Databases vs. File-based Data Management

Quiz

Which of these statements is *not* correct?

- 1) A database approach to data management uses the available storage in a more efficient manner.
- 2) In a database approach, there is typically less storage needed compared to the file approach.
- 3) In a file approach to data management, different applications could be using older and newer versions of the same data.
- 4) A file-based approach to data management facilitates concurrency control.

Quiz

Which of these statements is *not* correct?

- 1) In a database approach, applications don't have their own files, but all applications access the same version of the data by interfacing with the DBMS.
- 2) In a database approach, the data definitions or metadata are stored in the applications accessing the data.
- 3) In a database approach, maintenance of data and metadata is easier.
- 4) In a database approach, there is typically less storage needed compared to the file approach.

Quizzes

Database Languages

Quiz

Which of these statements is *not* correct?

- 1) In a file-based approach, every application has its own query and access procedures, even if they wanted to access the same data.
- 2) SQL is a database language that allows different applications to access different subsets of the data necessary for each application.
- 3) SQL is a database language that focuses on how to access and retrieve the data.
- 4) SQL is a database language to manage DBMSs without having to write a substantial amount of programming code.

Quiz

Statement A: DDL is the language used to define the logical data model, but no other data models.

Statement B: SQL is a DML language to retrieve, insert, delete and modify data.

Which sentence(s) is/are right?

- 1) Neither A nor B
- 2) Only B
- 3) Only A
- 4) A and B

Quizzes

Three-layer architecture,
data independence, and
data models

Quiz

Complete this sentence:

In the three-layer architecture, between the external layer and the conceptual/logical layer, there is...

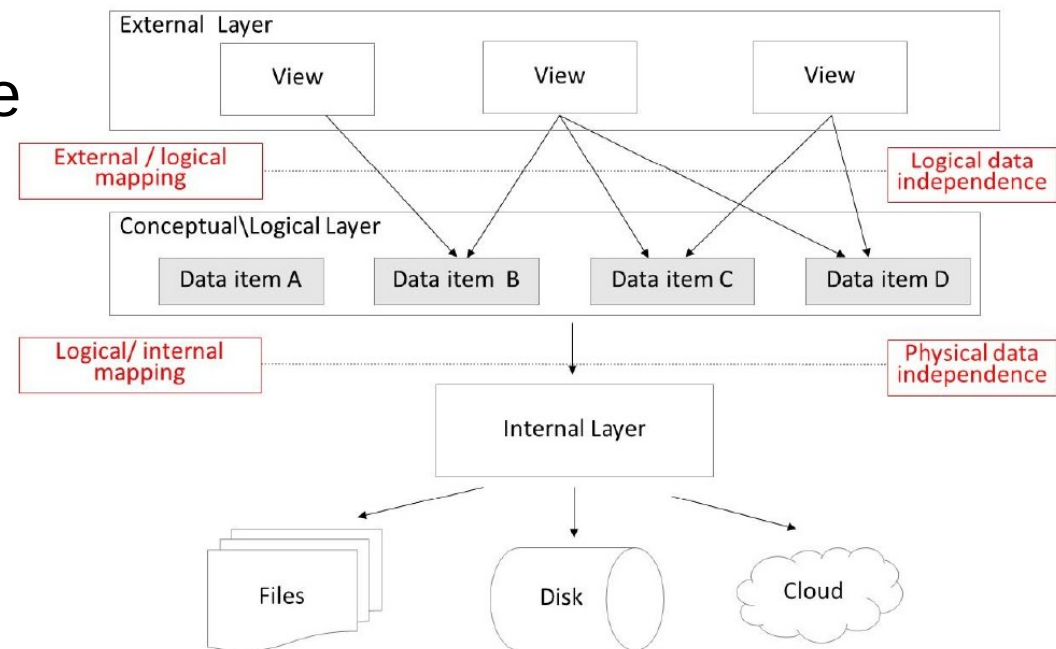
- 1) No independence, they are basically the same thing
- 2) The internal layer
- 3) Logical data independence
- 4) Physical data independence

Quiz

Complete this sentence:

In the three-layer architecture, between the external layer and the conceptual/logical layer, there is...

- 1) No independence, they are basically the same thing
- 2) The internal layer
- 3) Logical data independence
- 4) Physical data independence



Quiz

Statement A: Physical data independence implies that neither the applications, nor the views or logical data models must be changed when changes are made to the data storage specifications in the internal data model.

Statement B: Logical data independence implies that software applications are minimally affected by changes in the conceptual or logical data model.

Which sentence(s) is/are right?

- 1) Neither A nor B
- 2) Only B
- 3) Only A
- 4) A and B

Quiz

Which of these statements is *not* correct?

- 1) A logical data model represents the conceptual data model translated to a specific implementation environment.
- 2) In a conceptual data model, the data requirements from the business should be captured and modeled.
- 3) Examples of implementations of logical data models are hierarchical, CODASYL, relational or object-oriented models.
- 4) A conceptual data model is implementation dependent.

Quiz

Which of these statements *is correct*?

- 1) The database state specifies the various data items, their characteristics and relationships and is specified during the database design.
- 2) The database is stored in the catalog.
- 3) The database state changes when data is updated or removed.
- 4) The database state represents the data in the database when the database is first created.

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