Data abstraction is a concept in database management that involves hiding unnecessary details from users, allowing them to interact with the system in a simplified manner.

There are three levels of data abstraction:



1. Physical Level:

- What: Describes how the data is actually stored in the database.
- Details: Involves complex low-level data structures.
- Example: Knowing the details of file storage, disk structures, or data storage formats.

2. Logical Level:

- What: Describes what data is stored in the database and the relationships between the data.
- Details: Focuses on a small number of relatively simple structures.
- Example: Understanding the entities, attributes, and relationships in a relational database without delving into specific storage details.

3. View Level:

- What: The highest level of abstraction, presenting a simplified, user-specific view of the database.
- *Details:* Provides a subset of the entire database relevant to a specific user or application.
- Example: A user interface showing only certain fields or records based on a user's role or specific needs.

Explanation in Simpler Terms:

- Physical Level: Imagine you have a library. At the physical level, it's like knowing exactly where each book is stored on each shelf in the library.
- Logical Level: Now, think of the logical level as understanding what types of books are in the library (e.g., fiction, non-fiction) and how they are categorized, without worrying about the specific shelf location of each book.
- View Level: Finally, the view level is like someone walking into the library and seeing a
 curated display of books on a special shelf tailored to their interests. They only see
 what's relevant to them, and they don't need to know all the intricate details of the
 library's organization.

Related posts:

- 1. What is database management system (DBMS)? What are the tasks performed by users in DBMS?
- 2. What are the advantages and disadvantages of DBMS?
- 3. What do you understand by database users? Describe the different types of database users.

- 4. Who are data administrators? What are the functions of database administrator?OR Discuss the role of database administrator.
- 5. Explain the differences between physical level, conceptual level and view level of data abstraction.
- 6. Explain the difference between database management system (DBMS) and file system.
- 7. Discuss the architecture of DBMS. What are the types of DBMS architecture?
- 8. What are data models? Briefly explain different types of data models.
- 9. Describe data schema and instances.
- 10. Describe data independence with its types
- 11. Describe the classification of database language. Which type of language is SQL?
- 12. Explain DBMS interfaces. What are the various DBMS interfaces?
- 13. What is ER model? What are the elements of ER model? What are the notations of ER diagram?
- 14. What do you understand by attributes and domain ?Explain various types of attributes used in conceptual data model.
- 15. Construct an ER diagram for University system.
- 16. Construct an ER diagram for the registrar's office
- 17. Explain the primary key, super key, foreign key and candidate key with example. OR Define key. Explain various types of keys.
- 18. What do you mean by a key to the relation? Explain the differences between super key, candidate key and primary key.
- 19. Explain generalization, specialization and aggregation. OR Compare generalization, specialization and aggregation with suitable examples.
- 20. What is Unified Modeling Language? Explain different types of UML.
- 21. What is relational model? Explain with example.
- 22. Explain constraints and its types.
- 23. Consider the following relations:

- 24. What are the additional operations in relational algebra?
- 25. Explain integrity constraints.
- 26. Explain the following constraints: i. Entity integrity constraint. ii. Referential integrity constraint. iii. Domain constraint.
- 27. Describe mapping constraints with its types.
- 28. Explain how a database is modified in SQL. OR Explain database modification.
- 29. Discuss join and types with suitable example. Define join. Explain different types of join.
- 30. Describe the SQL set operations