Database Schema:

1. Definition: The database schema is like the blueprint or design of a database. It outlines how the data is organized, what types of data can be stored, and the relationships between different pieces of data.
2. Stability: Once designed, the schema doesn't change frequently. It's a stable framework that guides how data is stored and accessed.
3. Representation: A schema can be visually represented using a schema diagram. This diagram usually shows the names of different data entities (like tables) and their attributes.

Example: Schema Diagram for a Student Database

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Student (Name, Student_number, Class, Branch)

Course (Course_name, Course_number, Department)
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Database Instances:

1. Definition: The data in the database at a specific moment is called a database state or snapshot. This represents the current set of data in the database.
2. Variability: Database states can change as we add, delete, or modify records. Each state reflects the current situation of the data.
3. Multiple States: Different actions, like inserting a new record or updating an existing one, lead to different states. So, you can have many states of the database while following the same schema.

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 adinistrator.
5. What is data abstraction ? Explain different levels ofabstraction.
6. Explain the differences between physical level,conceptual level and view level of data abstraction.
7. Explain the difference between database management system (DBMS) and file system.
8. Discuss the architecture of DBMS. What are the types of DBMS architecture ?
9. What are data models ? Briefly explain different types of data models.
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