2. Which SQL statement is used to create a table?

- A) INSERT INTO

- B) SELECT

- C) CREATE TABLE

- D) UPDATE

Answer: C) CREATE TABLE

3. Which SQL statement is used to insert data into a table?

- A) INSERT INTO

- B) CREATE TABLE

- C) SELECT

- D) UPDATE

Answer: A) INSERT INTO

4. What data type is used for the StudentID column?

- A) varchar(50)

- B) nvarchar(50)

- C) int

- D) date

Answer: B) nvarchar(50)

5. What is the data type for the DOB column?

- A) varchar(50)

- B) nvarchar(50)

- C) int

- D) date

Answer: D) date

9. What is the data type for the Name column?

- A) nvarchar(50)

- B) varchar(50)

- C) int

- D) date

Answer: A) nvarchar(50)

15. What is the data type for the Address column?

- A) varchar(50)

- B) nvarchar(50)

- C) int

- D) date

Answer: B) nvarchar(50)

19. Which SQL statement would you use to select a database?

- A) USE

- B) SELECT

- C) CREATE

- D) INSERT

Answer: A) USE

22. What SQL clause can be used to avoid ambiguity when inserting data into a specific column?

- A) VALUES

- B) SELECT

- C) WHERE

- D) INSERT INTO

Answer: A) VALUES

23. Where should you refresh the database after executing a command?

- A) Before executing a command

- B) After executing a command

- C) During executing a command

- D) No need to refresh

Answer: B) After executing a command

25. How should SQL commands be ended?

- A) With a comma

- B) With a period

- C) With a semicolon

- D) With an exclamation mark

Answer: C) With a semicolon

27. What is the correct syntax to create a table in SQL?

- A) CREATE Student TABLE

- B) TABLE CREATE Student

- C) CREATE TABLE Student

- D) STUDENT CREATE TABLE

Answer: C) CREATE TABLE Student

28. Which SQL keyword is used to specify the table in which data will be inserted?

- A) INTO

- B) TABLE

- C) CREATE

- D) SELECT

Answer: A) INTO

2. Which component is NOT part of the database environment?

- A) Hardware

- B) Software

- C) DBMS software

- D) File folders

Answer: D) File folders

3. What does DBMS stand for?

- A) Data Binary Management System

- B) Database Management System

- C) Data Base Management Software

- D) Database Binary Management System

Answer: B) Database Management System

4. Which function of a DBMS ensures data privacy and user security?

- A) Data dictionary management

- B) Data storage management

- C) Security management

- D) Backup and recovery management

Answer: C) Security management

5. What is data redundancy?

- A) Loss of data

- B) Repetition of data

- C) Encryption of data

- D) Compression of data

Answer: B) Repetition of data

6. Which is NOT a type of data anomaly?

- A) Update anomaly

- B) Deletion anomaly

- C) Insertion anomaly

- D) Retrieval anomaly

Answer: D) Retrieval anomaly

7. Why is database design important?

- A) It increases storage costs

- B) It avoids redundant data

- C) It decreases system performance

- D) It simplifies data corruption

Answer: B) It avoids redundant data

8. What does a well-designed database prevent?

- A) Data consistency

- B) Data integrity

- C) Data redundancy

- D) Data security

Answer: C) Data redundancy

9. Which of the following is a main component of the database system environment?

- A) Data anomalies

- B) File folders

- C) People

- D) Data redundancy

Answer: C) People

10. Which function of a DBMS involves translating logical requests into commands to retrieve data?

- A) Data dictionary management

- B) Data transformation and presentation

- C) Security management

- D) Multiuser access control

Answer: B) Data transformation and presentation

11. What type of anomaly occurs when changes must be made to existing records?

- A) Update anomaly

- B) Insertion anomaly

- C) Deletion anomaly

- D) Modification anomaly

Answer: A) Update anomaly

12. What makes using a database system desirable compared to file systems?

- A) Independent files

- B) Logically related data stored in a single repository

- C) High-level programming requirements

- D) Redundant data storage

Answer: B) Logically related data stored in a single repository

13. Which component of the database system environment stores data and related forms?

- A) Data dictionary management

- B) Data storage management

- C) Security management

- D) Multiuser access control

Answer: B) Data storage management

14. Which function of a DBMS enforces integrity rules?

- A) Data dictionary management

- B) Backup and recovery management

- C) Data integrity management

- D) Database communication interfaces

Answer: C) Data integrity management

15. What is one disadvantage of a file-based system?

- A) Easy to change file structure

- B) Simple system administration

- C) Requires extensive programming

- D) High-level security features

Answer: C) Requires extensive programming

16. Which term describes errors that result from data redundancy?

- A) Data consistency

- B) Data anomaly

- C) Data integrity

- D) Data security

Answer: B) Data anomaly

17. What is a characteristic of manual file systems?

- A) Efficient for large data sets

- B) Adequate for small amounts of data

- C) Requires advanced technology

- D) Uses relational databases

Answer: B) Adequate for small amounts of data

18. Which function of a DBMS allows multiple users to access the database concurrently?

- A) Data storage management

- B) Data transformation and presentation

- C) Multiuser access control

- D) Backup and recovery management

Answer: C) Multiuser access control

19. Which of the following is a problem associated with file systems?

- A) Data encryption

- B) Data redundancy

- C) High security

- D) Efficient data retrieval

Answer: B) Data redundancy

20. What does data inconsistency result from?

- A) Data redundancy

- B) Data integrity

- C) Data encryption

- D) Data normalization

Answer: A) Data redundancy

21. What term is used for entering new records that cause anomalies?

- A) Update anomaly

- B) Insertion anomaly

- C) Deletion anomaly

- D) Modification anomaly

Answer: B) Insertion anomaly

22. What does a DBMS use to ensure data privacy within the database?

- A) Multiuser access control

- B) Data dictionary management

- C) Security management

- D) Backup and recovery management

Answer: C) Security management

23. What happens as the number of files in a file system expands?

- A) System administration becomes simpler

- B) System administration becomes difficult

- C) Data retrieval becomes easier

- D) Data consistency improves

Answer: B) System administration becomes difficult

24. What does a database management system (DBMS) help prevent?

- A) Data redundancy

- B) Data integrity

- C) Data encryption

- D) Data security

Answer: A) Data redundancy

25. Which function of a DBMS provides data access through a query language?

- A) Data dictionary management

- B) Data integrity management

- C) Database access languages and application programming interfaces

- D) Multiuser access control

Answer: C) Database access languages and application programming interfaces

26. What is a disadvantage of file-based systems in terms of security?

- A) Security features are easily implemented

- B) Security features are often omitted

- C) Security features are redundant

- D) Security features are always reliable

Answer: B) Security features are often omitted

27. Which component of the database system environment involves procedures and instructions?

- A) Hardware

- B) Software

- C) People

- D) Procedures

Answer: D) Procedures

28. What type of file system is considered obsolete?

- A) Relational file system

- B) Manual file system

- C) Network file system

- D) Distributed file system

Answer: B) Manual file system

29. Which function of a DBMS includes providing backup and recovery procedures?

- A) Data dictionary management

- B) Data storage management

- C) Backup and recovery management

- D) Multiuser access control

Answer: C) Backup and recovery management

30. Which type of anomaly occurs when deleting records?

- A) Update anomaly

- B) Insertion anomaly

- C) Deletion anomaly

- D) Modification anomaly

Answer: C) Deletion anomaly

1. What are data models?

- A) Complex representations of real-world data structures

- B) Simple representations, usually graphical, of complex real-world data structures

- C) Lists of data attributes

- D) Tables of data entities

- Answer: B

3. Which term is used to describe graphical representations of data models?

- A) ERD

- B) Attribute

- C) Data Dictionary

- D) Schema

- Answer: A

4. Data models facilitate interaction among which groups?

- A) Designers, programmers, and end-users

- B) Managers, employees, and customers

- C) Analysts, developers, and stakeholders

- D) Administrators, supervisors, and clerks

- Answer: A

5. What is an entity in a data model?

- A) A description of an association among attributes

- B) A restriction placed on the data

- C) Anything about which data are to be collected and stored

- D) A characteristic of an entity

- Answer: C

6. What must business rules be?

- A) Complex and difficult to understand

- B) Vague and adaptable

- C) Written, up-to-date, and easy to understand

- D) Exclusively created by end-users

- Answer: C

7. Nouns in business rules generally translate to which data model component?

- A) Relationships

- B) Entities

- C) Attributes

- D) Constraints

- Answer: B

9. Which of the following best describes the hierarchical data model?

- A) Entities are connected in a network structure

- B) Entities are arranged in a tree-like structure

- C) Entities are stored in relational tables

- D) Entities are linked in a star schema

- Answer: B

10. Which statement best describes the network model?

- A) Data is arranged in a hierarchical structure

- B) Data is organized in a mesh-like structure

- C) Data is stored in flat files

- D) Data is depicted in entity-relationship diagrams

- Answer: B

11. What does a relational table resemble?

- A) A file

- B) A graph

- C) A network

- D) A tree

- Answer: A

13. What is an entity instance?

- A) A column in a table

- B) A row in a table

- C) A table itself

- D) A relationship between tables

- Answer: B

14. Which of the following describes data models?

- A) Graphical representations of policies

- B) Simple representations of complex data structures

- C) Detailed descriptions of data attributes

- D) Lists of data constraints

- Answer: B

16. What does an entity relationship model represent?

- A) Policies and procedures

- B) Data storage locations

- C) Entities and their relationships

- D) Application workflows

- Answer: C

17. What is a relational table?

- A) A complex data model

- B) A logical structure to store a collection of related entities

- C) A physical storage unit

- D) A hierarchical data model component

- Answer: B

18. Which type of relationship describes an association among entities where one entity can be related to multiple entities and those entities can also be related to many others?

- A) One-to-One

- B) One-to-Many

- C) Many-to-Many

- D) One-to-None

- Answer: C

19. Which data model organizes data in a tree-like structure?

- A) Relational

- B) Network

- C) Hierarchical

- D) Entity-Relationship

- Answer: C

20. What type of relationship does a diamond shape represent in an ERD?

- A) Entity

- B) Attribute

- C) Relationship

- D) Constraint

- Answer: C

21. What does a relational diagram represent?

- A) Data entry forms

- B) Relational database's entities, attributes, and relationships

- C) Business rules

- D) Application workflows

- Answer: B

22. Attributes in a data model are:

- A) The relationships among entities

- B) Restrictions placed on the data

- C) Characteristics of entities

- D) Sources of business rules

- Answer: C

23. Which statement about relational tables is TRUE?

- A) They are physical structures

- B) They are hierarchical structures

- C) They are purely logical structures

- D) They store business rules

- Answer: C

24. What do verbs in business rules generally translate to?

- A) Entities

- B) Attributes

- C) Relationships

- D) Constraints

- Answer: C

25. Which of the following is a characteristic of business rules?

- A) Must be vague

- B) Should be kept secret

- C) Must be written and kept up to date

- D) Should be complex

- Answer: C

26. What is the primary function of business rules in database design?

- A) To define data storage locations

- B) To describe policies, procedures, or principles within an organization

- C) To manage application workflows

- D) To document software requirements

- Answer: B

27. What kind of representation is an entity relationship model known for?

- A) Text-based

- B) Graphical

- C) Numerical

- D) Sequential

- \*Answer: B

28. The relational model was initially considered impractical because:

- A) It was too simple

- B) Computers lacked the power to implement it

- C) It was too expensive

- D) It was difficult to understand

- Answer: B

29. Which term refers to a restriction placed on the data in a data model?

- A) Entity

- B) Attribute

- C) Relationship

- D) Constraint

- Answer: D

30. In the context of data models, what is a 'relationship'?

- A) A characteristic of an entity

- B) A graphical representation

- C) An association among entities

- D) A type of business rule

- Answer: C

31. What is the key benefit of using data models?

- A) They are easy to create

- B) They enhance communication between designers, programmers, and end-users

- C) They eliminate the need for databases

- D) They simplify data storage

- Answer: B

32. Which data model component describes a policy, procedure, or principle within an organization?

- A) Data dictionary

- B) Entity

- C) Attribute

- D) Business rule

- Answer: D

33. Entities in a relational database are represented as:

- A) Columns

- B) Rows

- C) Tables

- D) Relationships

- Answer: C

35. Which of the following is NOT a basic building block of data models?

- A) Entity

- B) Attribute

- C) Workflow

- D) Relationship

- Answer: C

36. What characteristic of relational tables became a source of a real database revolution?

- A) Their cost-efficiency

- B) Their physical structure

- C) Their logical structure

- D) Their hierarchical nature

- Answer: C

37. Which data model component helps organize data for various users?

- A) Entity

- B) Attribute

- C) Data model

- D) Relationship

- Answer: C

38. In the relational model, what does the term 'relation' refer to?

- A) An attribute

- B) A table

- C) A relationship

- D) A constraint

- Answer: B

39. Entity relationship diagrams (ERDs) are used to:

- A) Create data storage structures

- B) Define application workflows

- C) Model database components graphically

- D) Develop business policies

- Answer: C

40. Which of the following is a type of key in a relational table?

- A) Primary key

- B) Secondary key

- C) Tertiary key

- D) Alternate key

- Answer: A

41. Which data model evolved first?

- A) Relational

- B) Hierarchical

- C) Network

- D) Entity relationship

- Answer: B

43. In a relational table, each row represents:

- A) An attribute

- B) A relationship

- C) An entity instance

- D) A business rule

- Answer: C

44. Which data model is based on the concept of tables (relations)?

- A) Hierarchical model

- B) Network model

- C) Relational model

- D) Entity relationship model

- Answer: C

45. Which is a common source of business rules?

- A) Data dictionaries

- B) Written documentation

- C) Application software

- D) User interfaces

- Answer: B

46. The term 'attribute' in a data model refers to:

- A) A restriction on the data

- B) An association between entities

- C) A characteristic of an entity

- D) A source of business rules

- Answer: C

47. What type of data model uses a series of row/column intersections?

- A) Hierarchical

- B) Network

- C) Relational

- D) Entity relationship

- Answer: C

49. In an ERD, what does a rectangle represent?

- A) An attribute

- B) A relationship

- C) An entity

- D) A constraint

- Answer: C

50. Which statement about business rules is FALSE?

- A) They must be rendered in writing

- B) They describe characteristics of the data as viewed by the company

- C) They are always internal to the organization

- D) They apply to any organization that stores and uses data

- Answer: C

1. What does the relational model enable programmers to view?

- A) Data physically

- B) Data logically

- C) Data structurally

- D) Data relationally

- Answer: B

2. What advantage does a table have in the relational model?

- A) It is more complex than hierarchical and network models

- B) It resembles a file from a conceptual point of view

- C) It is difficult to understand

- D) It does not provide data independence

- Answer: B

3. What is a table in a relational database?

- A) A two-dimensional structure composed of rows and columns

- B) A hierarchical structure of data

- C) A single column of data

- D) An unstructured data format

- Answer: A

4. What is another name for a table in the relational model?

- A) Entity

- B) File

- C) Relation

- D) Tuple

- Answer: C

5. What is a primary key?

- A) An attribute that uniquely identifies a row in a table

- B) An attribute that duplicates values in a table

- C) An attribute used strictly for data retrieval

- D) An attribute that links two tables

- Answer: A

6. What is a foreign key?

- A) An attribute whose values match primary key values in the related table

- B) A key used for sorting data

- C) A key used to delete rows

- D) A key that uniquely identifies a table

- Answer: A

7. What is a candidate key?

- A) A key used for data entry

- B) Any column or combination of columns that can qualify as a unique key in a database

- C) A key that is always the primary key

- D) A key that contains null values

- Answer: B

8. What does referential integrity ensure?

- A) That each row in a table is unique

- B) That a foreign key contains a value that refers to an existing valid row in another relation

- C) That attributes do not repeat

- D) That data is physically stored

- Answer: B

9. Which statement about nulls is TRUE?

- A) Nulls are always allowed in primary keys

- B) Nulls represent unknown, missing, or inapplicable values

- C) Nulls do not affect functions like COUNT and SUM

- D) Nulls are preferred in data entry

- Answer: B

10. Why is controlled redundancy important in a relational database?

- A) It reduces the need for primary keys

- B) It makes the relational database work by linking tables with common attributes

- C) It creates unnecessary duplication

- D) It complicates the relational model

- Answer: B

11. What does a data dictionary contain?

- A) Only the primary keys of tables

- B) Detailed accounting of all tables, attribute names, and characteristics

- C) Only the relationships between tables

- D) Only metadata about primary keys

- Answer: B

12. The logical view of data in the relational model allows for:

- A) Structural dependence

- B) Structural independence

- C) Physical data manipulation

- D) Direct data entry

- Answer: B

13. What is entity integrity?

- A) Ensuring foreign keys are unique

- B) Ensuring no null values in the primary key

- C) Allowing null values in the primary key

- D) Ensuring data is encrypted

- Answer: B

14. What is an attribute domain?

- A) A collection of related tables

- B) A set of allowable values for an attribute

- C) A primary key

- D) A data retrieval method

- Answer: B

15. What term is often used interchangeably with "table"?

- A) Column

- B) Row

- C) Entity set

- D) Attribute

- Answer: C

16. Which is NOT a criterion for selecting a primary key?

- A) It should contain null values

- B) It should be unique

- C) It should not repeat

- D) It should not change

- Answer: A

17. What do keys define in relational tables?

- A) Data storage locations

- B) Functional dependencies

- C) User roles

- D) Database schemas

- Answer: B

18. Referential integrity ensures that:

- A) All foreign keys must reference primary keys

- B) Primary keys must be unique

- C) Secondary keys are indexed

- D) Null values are minimized

- Answer: A

19. What is metadata?

- A) Data about data

- B) The actual content of the database

- C) The primary key information

- D) User data entries

- Answer: A

20. What is a secondary key?

- A) A key used for data retrieval purposes

- B) A key used to uniquely identify a row

- C) A key that always contains null values

- D) A key that is not used in relational databases

- Answer: A

21. In the relational model, the logical view of data:

- A) Is the same as the physical view

- B) Is different from the physical view

- C) Does not exist

- D) Is not important

- Answer: B

22. What is a persistent relation in a table?

- A) A temporary data structure

- B) A relation whose contents can be permanently saved for future use

- C) A primary key

- D) A foreign key relationship

24. Which characteristic is NOT true for a primary key?

- A) It is unique

- B) It can contain null values

- C) It uniquely identifies any given entity (row)

- D) It is based on determination

- Answer: B

25. When does redundancy exist in relational tables?

- A) When values are repeated to make the relationship work

- B) When there is unnecessary duplication of attribute values

- C) When tables are not linked

- D) When tables have foreign keys

- Answer: B

26. What is the structure of a relational table?

- A) A single dimension of data

- B) A two-dimensional structure of rows and columns

- C) A three-dimensional structure

- D) A list of unstructured data

- Answer: B

27. Which of the following is an integrity rule in relational databases?

- A) Primary keys must contain null values

- B) Foreign keys must contain values that match primary keys in related tables

- C) Secondary keys are not allowed

- D) Candidate keys must always be primary keys

- Answer: B

28. Which of the following is a benefit of the relational model?

- A) It is more difficult to understand

- B) It lacks structural independence

- C) It provides a logical view of data

- D) It is conceptually the same as hierarchical and network models

- Answer: C

29. Which is TRUE about candidate keys?

- A) There can be only one candidate key per table

- B) Candidate keys can qualify as primary keys

- C) Candidate keys must contain null values

- D) Candidate keys are used only for data retrieval

- Answer: B

30. What type of independence does the relational model offer?

- A) Structural independence

- B) Data dependence

- C) User dependence

- D) Application independence

- Answer: A

31. What does an entity set refer to in a relational database?

- A) A single attribute

- B) A group of related entities

- C) A single row

- D) A database schema

- Answer: B

32. In relational tables, what do NULL values represent?

- A) Always known values

- B) Always invalid data

- C) Unknown, missing, or inapplicable values

- D) Primary key values

- Answer: C

33. Which key concept defines functional dependencies in a relational table?

- A) Foreign key

- B) Primary key

- C) Attribute domain

- D) Null value

- Answer: B

34. Controlled redundancy in a relational database is important because:

- A) It eliminates all duplication

- B) It allows tables to be linked together using common attributes

- C) It requires complex schemas

- D) It is not necessary

- Answer: B

35. Entity integrity and referential integrity are enforced by:

- A) Foreign keys only

- B) Primary keys and foreign keys

- C) Candidate keys only

- D) Data dictionaries only

- Answer: B

36. The data dictionary is sometimes described as:

- A) The database manager’s database

- B) The database designer’s database

- C) The database user’s manual

- D) The database administrator’s guide

- Answer: B

37. An attribute in a relational table refers to:

- A) A row in the table

- B) A column in the table

- C) A relationship between tables

- D) A data entry method

- Answer: B

38. In a relational database, the terms entity set and table are often used:

- A) Separately

- B) Interchangeably

- C) Incorrectly

- D) Exclusively for different concepts

- Answer: B

39. When selecting a primary key, it is important to:

- A) Choose a key that may contain NULL

- B) Select a key that is unique and does not repeat

- C) Choose a key that frequently changes

- D) Select a key that is common in all tables

- Answer: B

40. Which situation violates referential integrity?

- A) A primary key containing NULL values

- B) A foreign key value not matching any primary key value in the related table

- C) A candidate key containing duplicate values

- D) A secondary key used for data retrieval

- Answer: B

41. In relational tables, nulls should be avoided in:

- A) Secondary keys

- B) Foreign keys

- C) Primary keys

- D) Attribute domains

- Answer: C

42. Which of the following best describes the relational database model?

- A) Based on hierarchical structures

- B) Based on two-dimensional tables

- C) Based on flat files

- D) Based on three-dimensional data arrays

- Answer: B

43. When is data redundancy necessary in relational databases?

- A) When it is required to make relationships work

- B) When it creates unnecessary duplication

- C) When tables are independent

- D) When data entries are unique

- Answer: A

45. Referential integrity in relational databases ensures:

- A) All tables are independent

- B) Foreign key values match primary key values in related tables

- C) Primary keys can contain NULL values

- D) Data redundancy is minimized

- Answer: B

46. An entity set in relational databases is:

- A) A collection of tables

- B) A collection of related entities

- C) A primary key

- D) An attribute domain

- Answer: B

47. The role of a foreign key is to:

- A) Uniquely identify a row

- B) Ensure entity integrity

- C) Create a link between tables

- D) Avoid data redundancy

- Answer: C

48. Which statement about primary keys is true?

- A) They can contain duplicate values

- B) They must contain unique values

- C) They are optional in relational tables

- D) They are always foreign keys

- Answer: B

49. The relational model provides:

- A) Structural dependence

- B) Structural independence

- C) Data redundancy

- D) Data dependence

- Answer: B

50. Which criterion is NOT used for selecting a primary key?

- A) It should not contain null values

- B) It should be unique

- C) It should change frequently

- D) It should not repeat

- Answer: C

What is the ideal type of relationship in relational database design?

a) 1:1

b) 1:M

c) M:N

d) None of the above

Answer: b) 1:M

Which type of relationship should be rare in any relational database design?

a) 1:1

b) 1:M

c) M:N

d) All of the above

Answer: a) 1:1

What is the primary method to resolve an M:N relationship in a relational database?

a) Leave it as M:N

b) Convert to 1:1

c) Convert to 1:M

d) Eliminate one entity

Answer: c) Convert to 1:M

Which term refers to a relationship where one entity can be related to only one other entity and vice versa?

a) 1:1

b) 1:M

c) M:N

d) Composite entity

Answer: a) 1:1

In relational modeling, which relationship type is considered the norm?

a) 1:1

b) 1:M

c) M:N

d) None of the above

Answer: b) 1:M

Why might a 1:1 relationship indicate that entity components were not defined properly?

a) It shows redundancy

b) It may indicate that two entities belong in the same table

c) It simplifies database design

d) It improves database performance

Answer: b) It may indicate that two entities belong in the same table

Which relationship type cannot be directly implemented in the relational model?

a) 1:1

b) 1:M

c) M:N

d) All of the above

Answer: c) M:N

What does a composite entity help achieve in an M:N relationship?

a) Improved data redundancy

b) Conversion to 1:M relationships

c) Simpler database queries

d) Elimination of foreign keys

Answer: b) Conversion to 1:M relationships

What must a composite entity table contain?

a) Only foreign keys

b) Only primary keys

c) At least the primary keys of the original tables

d) No keys

Answer: c) At least the primary keys of the original tables

What can data redundancy lead to?

a) Enhanced database performance

b) Data anomalies

c) Simplified database design

d) Improved data accuracy

Answer: b) Data anomalies

What is crucial to exercising data redundancy control?

a) Primary keys

b) Foreign keys

c) Composite entities

d) Data redundancy

Answer: b) Foreign keys

When is data redundancy sometimes necessary?

a) To eliminate all anomalies

b) To improve data access speed

c) To control data redundancies

d) For data accuracy

Answer: b) To improve data access speed

What uniquely identifies all attributes in a table?

a) Foreign key

b) Composite key

c) Primary key

d) Entity key

Answer: c) Primary key

What type of relationship is typical in any database environment?

a) 1:1

b) 1:M

c) M:N

d) None of the above

Answer: b) 1:M

What indicates that a 1:1 relationship might be necessary?

a) High data redundancy

b) Entities not being defined properly

c) Specific conditions that require their use

d) Improved database performance

Answer: c) Specific conditions that require their use

How can M:N relationships be avoided in relational modeling?

a) By creating a composite entity

b) By using more 1:1 relationships

c) By using more 1:M relationships

d) By eliminating redundant data

Answer: a) By creating a composite entity

What is a foreign key's primary purpose?

a) Uniquely identify all attributes

b) Control data redundancies

c) Serve as a backup key

d) Improve query speed

Answer: b) Control data redundancies

In a well-designed relational database, what should each table row have?

a) Foreign key

b) Composite key

c) Primary key

d) Entity key

Answer: c) Primary key

Which relationship type is implemented by producing a set of 1:M relationships?

a) 1:1

b) 1:M

c) M:N

d) Composite entity

Answer: c) M:N

What should be the norm in any relational database design?

a) 1:1 relationship

b) 1:M relationship

c) M:N relationship

d) All of the above

Answer: b) 1:M relationship

What is often a sign of improperly defined entity components in a database?

a) 1:1 relationship

b) 1:M relationship

c) M:N relationship

d) Composite entity

Answer: a) 1:1 relationship

Which relationship cannot be implemented as such in the relational model?

a) 1:1

b) 1:M

c) M:N

d) None of the above

Answer: c) M:N

What does a composite entity help create?

a) Multiple 1:1 relationships

b) A single 1:M relationship

c) Multiple 1:M relationships

d) No relationships

Answer: c) Multiple 1:M relationships

What must a composite entity table contain?

a) Foreign keys

b) Only primary keys

c) At least the primary keys of the original tables

d) Composite keys

Answer: c) At least the primary keys of the original tables

What is a consequence of data redundancy?

a) Improved data accuracy

b) Data anomalies

c) Simplified database queries

d) Enhanced performance

Answer: b) Data anomalies

What is crucial to control data redundancy?

a) Primary keys

b) Foreign keys

c) Composite entities

d) Data anomalies

Answer: b) Foreign keys

When might data redundancy be necessary?

a) To eliminate all anomalies

b) To improve data access speed

c) To simplify design

d) For data accuracy

Answer: b) To improve data access speed

Which key uniquely identifies all attributes in a table?

a) Foreign key

b) Composite key

c) Primary key

d) Entity key

Answer: c) Primary key

What is the norm in relational database environments?

a) 1:1 relationships

b) 1:M relationships

c) M:N relationships

d) None of the above

Answer: b) 1:M relationships

When is a 1:1 relationship appropriate?

a) When it improves performance

b) When specific conditions require it

c) When there is high data redundancy

d) When entities are defined properly

Answer: b) When specific conditions require it

How can M:N relationships be effectively managed?

a) By creating composite entities

b) By using more 1:1 relationships

c) By using more 1:M relationships

d) By ignoring redundancy

Answer: a) By creating composite entities

What is the main purpose of foreign keys?

a) Improve performance

b) Control data redundancy

c) Serve as backup keys

d) Simplify design

Answer: b) Control data redundancy

What must each table row have in a well-designed database?

a) Foreign key

b) Composite key

c) Primary key

d) Entity key

Answer: c) Primary key

How are M:N relationships implemented in a relational database?

a) By producing 1:1 relationships

b) By producing 1:M relationships

c) By eliminating one entity

d) By using composite entities

Answer: b) By producing 1:M relationships

What is the standard relationship type in relational databases?

a) 1:1 relationship

b) 1:M relationship

c) M:N relationship

d) Composite relationship

Answer: b) 1:M relationship

What can a 1:1 relationship indicate about entity components?

a) They are well-defined

b) They may need to be combined

c) They are redundant

d) They are composite

Answer: b) They may need to be combined

Which relationship cannot be directly implemented?

a) 1:1

b) 1:M

c) M:N

d) Composite

Answer: c) M:N

What does a composite entity help convert?

a) 1:1 to 1:M

b) M:N to 1:M

c) 1:M to 1:1

d) Redundant data to primary data

Answer: b) M:N to 1:M

What should a composite entity contain at minimum?

a) Foreign keys

b) Primary keys of original tables

c) Composite keys

d) No keys

Answer: b) Primary keys of original tables

What can excessive data redundancy lead to?

a) Improved performance

b) Data anomalies

c) Simpler design

d) Enhanced accuracy

Answer: b) Data anomalies

What is essential for managing data redundancy?

a) Composite keys

b) Foreign keys

c) Primary keys

d) Entity keys

Answer: b) Foreign keys

Why is data redundancy sometimes necessary?

a) To eliminate anomalies

b) To improve access speed

c) To simplify design

d) To ensure accuracy

Answer: b) To improve access speed

What identifies all attributes uniquely?

a) Composite key

b) Foreign key

c) Primary key

d) Entity key

Answer: c) Primary key

What relationship type is most common in databases?

a) 1:1

b) 1:M

c) M:N

d) Composite

Answer: b) 1:M

When is a 1:1 relationship most likely necessary?

a) For performance improvement

b) When specific conditions require

c) When entities are properly defined

d) For redundancy control

Answer: b) When specific conditions require

What is a practical way to handle M:N relationships?

a) Create composite entities

b) Use more 1:1 relationships

c) Ignore redundancy

d) Simplify design

Answer: a) Create composite entities

What is the role of foreign keys in databases?

a) Enhance performance

b) Manage redundancy

c) Serve as backups

d) Simplify relationships

Answer: b) Manage redundancy

In a well-structured database, what must every table row have?

a) Foreign key

b) Composite key

c) Primary key

d) Entity key

Answer: c) Primary key

How can M:N relationships be implemented?

a) By creating 1:1 relationships

b) By creating 1:M relationships

c) By removing one entity

d) By simplifying redundancy

Answer: b) By creating 1:M relationships

What is the ideal relationship type in relational databases?

a) 1:1

b) 1:M

c) M:N

d) Composite

Answer: b) 1:M

What does ERD stand for in database design?

a) Entity Relationship Design

b) Entity Relationship Diagram

c) Entity Relational Database

d) Entity Referential Design

Answer: b) Entity Relationship Diagram

In an ERD, what does an entity represent?

a) A single occurrence of an item

b) A set of items

c) A table row

d) An attribute

Answer: b) A set of items

In the Chen model, how are entities represented?

a) Ovals

b) Rectangles

c) Diamonds

d) Circles

Answer: b) Rectangles

What shape represents attributes in the Chen model?

a) Rectangles

b) Ovals

c) Diamonds

d) Circles

Answer: b) Ovals

In the Crow’s Foot model, where are attributes listed?

a) In ovals connected to entities

b) In rectangles below the entity rectangle

c) In diamonds connected to entities

d) In separate tables

Answer: b) In rectangles below the entity rectangle

What is a domain in the context of attributes?

a) The unique identifier of an entity

b) The set of possible values for an attribute

c) The relationship between entities

d) The physical storage of data

Answer: b) The set of possible values for an attribute

How are primary keys typically indicated in an ERD?

a) Italicized

b) Underlined

c) Bolded

d) Highlighted

Answer: b) Underlined

What is a composite primary key?

a) A key composed of a single attribute

b) A key composed of multiple attributes

c) A key that serves as a foreign key in another table

d) A key that cannot be subdivided

Answer: b) A key composed of multiple attributes

What distinguishes a composite attribute from a simple attribute?

a) Composite attributes can be subdivided

b) Simple attributes can be subdivided

c) Composite attributes are unique identifiers

d) Simple attributes are unique identifiers

Answer: a) Composite attributes can be subdivided

Which of the following describes a single-valued attribute?

a) Can have multiple values

b) Can have only a single value

c) Is derived from other attributes

d) Is always a primary key

Answer: b) Can have only a single value

What are multivalued attributes?

a) Attributes with a single possible value

b) Attributes that can have many values

c) Attributes that serve as primary keys

d) Attributes that are derived

Answer: b) Attributes that can have many values

What is a derived attribute?

a) An attribute that can have multiple values

b) An attribute whose value is calculated from other attributes

c) An attribute that serves as a primary key

d) An attribute that is always single-valued

Answer: b) An attribute whose value is calculated from other attributes

In an ERD, what do relationships between entities represent?

a) Physical storage locations

b) Associations between entities

c) The attributes of an entity

d) The primary keys of tables

Answer: b) Associations between entities

What term describes the relationship classification in an ERD?

a) Cardinality

b) Connectivity

c) Domain

d) Attribute

Answer: b) Connectivity

What does cardinality express in an ERD?

a) The physical location of data

b) The possible values for an attribute

c) The minimum and maximum number of entity occurrences

d) The type of attributes

Answer: c) The minimum and maximum number of entity occurrences

What defines a weak entity?

a) An entity that can exist independently

b) An entity with a composite primary key

c) An entity that depends on another entity for its existence

d) An entity that serves as a primary key

Answer: c) An entity that depends on another entity for its existence

Which condition is NOT true for a weak entity?

a) It is existence-dependent

b) It has a primary key derived from its parent entity

c) It can exist without any other entities

d) It cannot exist without its parent entity

Answer: c) It can exist without any other entities

What is a key characteristic of derived attributes?

a) They are always stored in the database

b) They need not be physically stored

c) They are always multivalued

d) They cannot be calculated

Answer: b) They need not be physically stored

Which model uses rectangles to represent entities and ovals to represent attributes?

a) Crow’s Foot

b) Chen

c) UML

d) Object-Oriented

Answer: b) Chen

In which model are attributes written in a box below the entity rectangle?

a) Crow’s Foot

b) Chen

c) UML

d) Object-Oriented

Answer: a) Crow’s Foot

What does an ERD visually represent?

a) The physical storage of data

b) The conceptual database design

c) The programming logic

d) The user interface

Answer: b) The conceptual database design

How is an entity name typically written in an ERD?

a) As a verb

b) As an adjective

c) As a noun in capital letters

d) As a question

Answer: c) As a noun in capital letters

What is a key purpose of using ERDs in database design?

a) To improve programming efficiency

b) To visually represent the database's main components

c) To manage user interfaces

d) To enhance physical storage

Answer: b) To visually represent the database's main components

Which term refers to an attribute that can be broken down into smaller parts?

a) Simple attribute

b) Composite attribute

c) Single-valued attribute

d) Derived attribute

Answer: b) Composite attribute

How are primary keys typically represented in an ERD?

a) In italics

b) Underlined

c) Bold

d) With asterisk

Answer: b) Underlined

What is the main difference between single-valued and multivalued attributes?

a) Single-valued attributes can only have one value, while multivalued attributes can have multiple values

b) Multivalued attributes can only have one value, while single-valued attributes can have multiple values

c) Single-valued attributes are always primary keys, while multivalued attributes are not

d) Multivalued attributes are always primary keys, while single-valued attributes are not

Answer: a) Single-valued attributes can only have one value, while multivalued attributes can have multiple values

What is a weak entity’s primary key derived from?

a) Its own attributes

b) The attributes of its parent entity

c) A composite key from unrelated entities

d) It does not have a primary key

Answer: b) The attributes of its parent entity

Which attribute type is calculated from other attributes?

a) Single-valued attribute

b) Multivalued attribute

c) Composite attribute

d) Derived attribute

Answer: d) Derived attribute

What classification term describes the relationship between entities in an ERD?

a) Connectivity

b) Domain

c) Attribute

d) Identifier

Answer: a) Connectivity

What do business rules help establish in an ERD?

a) The physical storage of data

b) The connectivity and cardinality

c) The layout of the user interface

d) The programming logic

Answer: b) The connectivity and cardinality

Which term describes the minimum and maximum number of entity occurrences associated with one occurrence of a related entity?

a) Connectivity

b) Cardinality

c) Domain

d) Attribute

Answer: b) Cardinality

Which relationship type is typically depicted as 1:M in an ERD?

a) Many-to-many

b) One-to-many

c) One-to-one

d) Many-to-one

Answer: b) One-to-many

What shape is used to represent relationships in the Chen model?

a) Rectangles

b) Ovals

c) Diamonds

d) Circles

Answer: c) Diamonds

Which type of attribute can have only one value?

a) Composite attribute

b) Simple attribute

c) Single-valued attribute

d) Derived attribute

Answer: c) Single-valued attribute

What characteristic defines a weak entity?

a) It can exist independently of other entities

b) It is identified by a composite key

c) It is existence-dependent on another entity

d) It has no primary key

Answer: c) It is existence-dependent on another entity

What is the purpose of a composite primary key?

a) To serve as a foreign key in another table

b) To uniquely identify a row using multiple attributes

c) To simplify the database design

d) To indicate a derived attribute

Answer: b) To uniquely identify a row using multiple attributes

Which attribute type cannot be subdivided?

a) Composite attribute

b) Simple attribute

c) Multivalued attribute

d) Derived attribute

Answer: b) Simple attribute

Which of the following is an example of a derived attribute?

a) Customer name

b) Order total calculated from item prices

c) Product ID

d) Employee address

Answer: b) Order total calculated from item prices

What is the primary key of a weak entity derived from?

a) Its own attributes

b) Attributes of a related strong entity

c) A unique composite key

d) A random value

Answer: b) Attributes of a related strong entity

How are multivalued attributes resolved in a database design?

a) By using a composite key

b) By creating a new entity

c) By combining them into a single attribute

d) By ignoring them

Answer: b) By creating a new entity

What is the function of business rules in database design?

a) To define user roles

b) To establish connectivity and cardinality

c) To create the physical database schema

d) To manage data entry

Answer: b) To establish connectivity and cardinality

In an ERD, what does the term "connectivity" refer to?

a) The physical links between databases

b) The relationship classification between entities

c) The network connection speed

d) The user interface design

Answer: b) The relationship classification between entities

Which term describes a set of possible values for an attribute?

a) Cardinality

b) Domain

c) Connectivity

d) Identifier

Answer: b) Domain

What is the significance of identifying weak entities in a database design?

a) They require unique primary keys

b) They simplify the design process

c) They depend on other entities for their existence

d) They enhance performance

Answer: c) They depend on other entities for their existence

What is the primary purpose of an ERD?

a) To create the physical database

b) To visually represent the database’s logical structure

c) To define user roles and permissions

d) To manage data entry

Answer: b) To visually represent the database’s logical structure

Which model represents attributes with ovals?

a) Crow’s Foot

b) Chen

c) UML

d) Hierarchical

\*Answer: b) Chen

Which component in an ERD represents the minimum and maximum number of entity occurrences?

a) Connectivity

b) Domain

c) Cardinality

d) Identifier

Answer: c) Cardinality

Which attribute type is always single-valued?

a) Composite attribute

b) Simple attribute

c) Derived attribute

d) Primary key

Answer: d) Primary key

What is the main function of a primary key in a table?

a) To link tables together

b) To ensure uniqueness of each row

c) To store multiple values

d) To act as a foreign key

Answer: b) To ensure uniqueness of each row

Which attribute type can be broken down into smaller parts?

a) Simple attribute

b) Composite attribute

c) Derived attribute

d) Multivalued attribute

Answer: b) Composite attribute

1. What is the focus of Week 7 in the Introduction to Databases module?

- A) SQL Queries

- B) Entity Relationship Model

- C) Database Normalization

- D) Indexing

- Answer: B) Entity Relationship Model

2. What should you be able to construct by the end of this topic?

- A) SQL statements

- B) Entity relational model based on a case study

- C) Normalized database schema

- D) Data warehouse

- Answer: B) Entity relational model based on a case study

3. Which of the following is NOT a key term you must be able to use?

- A) Crow’s foot

- B) Binary tree

- C) Unary / recursive relationship

- D) Quaternary relationship

- Answer: B) Binary tree

4. What is a binary relationship?

- A) Association within a single entity

- B) Two entities are associated

- C) Three entities are associated

- D) Four entities are associated

- Answer: B) Two entities are associated

5. What type of relationship does 'Registers' represent?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: C) Ternary

6. Which relationship is naturally found within unary relationships?

- A) Recursive relationships

- B) Binary relationships

- C) Ternary relationships

- D) Quaternary relationships

- Answer: A) Recursive relationships

7. What are composite entities also known as?

- A) Primary entities

- B) Foreign entities

- C) Bridge entities

- D) Attribute entities

- Answer: C) Bridge entities

8. What does the degree of a relationship indicate?

- A) The number of attributes

- B) The number of entities or participants associated with a relationship

- C) The number of primary keys

- D) The number of foreign keys

- Answer: B) The number of entities or participants associated with a relationship

9. What does optional participation mean?

- A) One entity occurrence does not require a corresponding entity occurrence in a particular relationship

- B) One entity occurrence requires a corresponding entity occurrence in a particular relationship

- C) Relationship must always exist

- D) Relationship can never exist

- Answer: A) One entity occurrence does not require a corresponding entity occurrence in a particular relationship

10. What is mandatory participation?

- A) One entity occurrence does not require a corresponding entity occurrence in a particular relationship

- B) One entity occurrence requires a corresponding entity occurrence in a particular relationship

- C) Relationship must never exist

- D) Relationship can sometimes exist

- Answer: B) One entity occurrence requires a corresponding entity occurrence in a particular relationship

11. Which model uses Crow’s foot notation?

- A) Chen’s model

- B) ERD

- C) UML

- D) Relational model

- Answer: B) ERD

12. What does a ternary relationship involve?

- A) One entity

- B) Two entities

- C) Three entities

- D) Four entities

- Answer: C) Three entities

13. What is an example of a binary relationship given in the lecture?

- A) CLASS is optional to PROFESSOR

- B) POwns

- C) Registers

- D) Arranges

- Answer: B) POwns

14. Which type of relationship does 'Arranges' represent?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: D) Quaternary

15. What does the term 'connectivity' refer to in ER models?

- A) The structure of the database

- B) The relationships between entities

- C) The attributes of the entities

- D) The keys of the entities

- Answer: B) The relationships between entities

16. What are the components of composite entities?

- A) Primary keys of each of the entities to be connected

- B) Only attributes that play a role in the connective process

- C) Foreign keys only

- D) Attributes of a single entity

- Answer: A) Primary keys of each of the entities to be connected

17. In the context of ER models, what does cardinality define?

- A) The number of entities

- B) The attributes of an entity

- C) The numeric relationship between entity instances

- D) The primary keys of an entity

- Answer: C) The numeric relationship between entity instances

18. What is the primary purpose of an ERD?

- A) To write SQL queries

- B) To represent the conceptual database as viewed by the end user

- C) To perform database normalization

- D) To define network architecture

- Answer: B) To represent the conceptual database as viewed by the end user

19. Which type of relationship indicates an association within a single entity?

- A) Binary relationship

- B) Unary relationship

- C) Ternary relationship

- D) Quaternary relationship

- Answer: B) Unary relationship

20. What is a unary relationship also known as?

- A) Recursive relationship

- B) Binary relationship

- C) Ternary relationship

- D) Quaternary relationship

- Answer: A) Recursive relationship

21. What is the relationship degree called when three entities are associated?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: C) Ternary

22. Which of the following is NOT an example of an ER model notation?

- A) Crow's foot

- B) Chen's model

- C) UML

- D) Binary tree

- Answer: D) Binary tree

23. What is indicated by a quaternary relationship?

- A) One entity

- B) Two entities

- C) Three entities

- D) Four entities

- Answer: D) Four entities

24. What must be used correctly in assignments and exams according to the lecture?

- A) SQL syntax

- B) ER model terms

- C) Database indexing

- D) Network protocols

- Answer: B) ER model terms

25. What does the term 'entity' refer to in an ER model?

- A) A single attribute

- B) A distinct object in the database

- C) A primary key

- D) A foreign key

- Answer: B) A distinct object in the database

26. What is required in a mandatory participation relationship?

- A) Corresponding entity occurrence is optional

- B) No corresponding entity occurrence

- C) Corresponding entity occurrence is required

- D) Optional entity occurrence

- Answer: C) Corresponding entity occurrence is required

27. Which term is used for a relationship that can exist between occurrences of the same entity set?

- A) Binary relationship

- B) Unary relationship

- C) Recursive relationship

- D) Ternary relationship

- Answer: C) Recursive relationship

28. What does 'M:N relationship' mean in ERM?

- A) Multiple primary keys

- B) Many-to-many relationship

- C) One-to-many relationship

- D) One-to-one relationship

- Answer: B) Many-to-many relationship

29. Which model representation includes connectivity and cardinality notations?

- A) ERD

- B) SQL

- C) UML

- D) DFD

- Answer: A) ERD

30. What does 'connectivities and cardinalities are based on business rules' imply?

- A) They are arbitrary

- B) They follow the design preferences of the database developer

- C) They adhere to the specific business requirements and constraints

- D) They are the same for all databases

- Answer: C) They adhere to the specific business requirements and constraints

31. Which relationship degree involves two entities?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: B) Binary

32. What is the name of the relationship where a class is optional to a professor?

- A) Unary relationship

- B) Binary relationship

- C) Ternary relationship

- D) Quaternary relationship

- Answer: B) Binary relationship

33. Which relationship degree involves four entities?

- A) Unary

B) Binary

- C) Ternary

- D) Quaternary

- Answer: D) Quaternary

34. Which term describes entities that connect two other entities and may contain additional attributes?

- A) Primary entities

- B) Foreign entities

- C) Composite entities

- D) Attribute entities

- Answer: C) Composite entities

35. What does a unary relationship maintain?

- A) Associations within two entities

- B) Associations within three entities

- C) Associations within a single entity

- D) Associations within four entities

- Answer: C) Associations within a single entity

36. What is an entity in an ER model typically represented as?

- A) A circle

- B) A rectangle

- C) A triangle

- D) A diamond

- Answer: B) A rectangle

37. What is the purpose of using ERDs in database design?

- A) To optimize SQL queries

- B) To visualize the logical structure of databases

- C) To perform database indexing

- D) To write complex algorithms

- Answer: B) To visualize the logical structure of databases

38. What relationship involves only one entity?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: A) Unary

39. What does 'entity occurrence' refer to in a relationship?

- A) A single attribute

- B) An instance of an entity

- C) A primary key

- D) A foreign key

- Answer: B) An instance of an entity

40. What is the notation called that uses symbols to represent the structure of relationships?

- A) ERD notation

- B) SQL syntax

- C) UML notation

- D) DFD notation

- Answer: A) ERD notation

41. What does 'cardinality' refer to in an ER model?

- A) The types of entities

- B) The types of relationships

- C) The numeric relationship between instances of entities

- D) The attributes of entities

- Answer: C) The numeric relationship between instances of entities

42. In which relationship type is 'Arranges' used as an example?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: D) Quaternary

43. Which type of participation does not require an entity occurrence in a particular relationship?

- A) Mandatory participation

- B) Optional participation

- C) Complete participation

- D) Partial participation

- Answer: B) Optional participation

44. Which term refers to the conceptual database design viewed by end users?

- A) ERD

- B) SQL

- C) UML

- D) DFD

- Answer: A) ERD

45. Which model helps in visualizing the relationships between entities in a database?

- A) ERD

- B) UML

- C) DFD

- D) XML

- Answer: A) ERD

46. What is an example of a quaternary relationship given in the lecture?

- A) Registers

- B) POwns

- C) Arranges

- D) None of the above

- Answer: C) Arranges

47. What is a composite entity also known as?

- A) Bridge entity

- B) Primary entity

- C) Secondary entity

- D) Foreign entity

- Answer: A) Bridge entity

48. Which type of relationship is 'POwns' in the lecture?

- A) Unary

- B) Binary

- C) Ternary

- D) Quaternary

- Answer: B) Binary

49. What is the name of the relationship where one entity occurrence requires a corresponding entity occurrence in a particular relationship?

- A) Optional participation

- B) Mandatory participation

- C) Partial participation

- D) Complete participation

- Answer: B) Mandatory participation

50. What is the final topic covered in the lecture?

- A) SQL Queries

- B) Entity Relationship Model

- C) Database normalization

- D) Indexing

- Answer: C) Database normalization

1. What is database normalization?

- A) A process for writing SQL queries

- B) A process for evaluating and correcting table structures to minimize data redundancies

- C) A process for creating user interfaces

- D) A process for indexing databases

- Answer: B) A process for evaluating and correcting table structures to minimize data redundancies

2. Which normal form eliminates repeating groups?

- A) UNF

- B) 1NF

- C) 2NF

- D) 3NF

- Answer: B) 1NF

3. What is the key focus of the first normal form (1NF)?

- A) Removing transitive dependencies

- B) Removing partial dependencies

- C) Eliminating repeating groups

- D) Ensuring all attributes are dependent on the primary key

- Answer: C) Eliminating repeating groups

4. What is a primary key?

- A) An attribute that uniquely identifies each row in a table

- B) An attribute that describes a characteristic of the table

- C) An attribute that is a foreign key in another table

- D) An attribute that contains null values

- Answer: A) An attribute that uniquely identifies each row in a table

5. Which normal form removes partial dependencies?

- A) UNF

- B) 1NF

- C) 2NF

- D) 3NF

- Answer: C) 2NF

6. What are partial dependencies?

- A) Dependencies based on the entire primary key

- B) Dependencies based on only part of the primary key

- C) Dependencies based on non-key attributes

- D) Dependencies based on foreign keys

- Answer: B) Dependencies based on only part of the primary key

7. Which normal form removes transitive dependencies?

- A) UNF

- B) 1NF

- C) 2NF

- D) 3NF

- Answer: D) 3NF

8. What are transitive dependencies?

- A) Dependencies where non-key attributes depend on other non-key attributes

- B) Dependencies where key attributes depend on non-key attributes

- C) Dependencies where attributes depend on the primary key

- D) Dependencies where attributes depend on foreign keys

- \*\*Answer: A) Dependencies where non-key attributes depend on other