DBMS Normalization MCQs

DBMS Normalization MCQs: This section contains multiple-choice questions and answers on normalization in DBMS.

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1. A ___ is normalized after it has been organized.

A. Table
B. Database
C. Row
D. Column

Answer: B) Database

Explanation:

A database is normalized after it has been organized.

Discuss this Question

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2. By normalizing relations or sets of relations, one minimizes ___.

A. Data
B. Fields
C. Redundancy
D. Database

Answer: C) Redundancy

Explanation:

By normalizing relations or sets of relations, one minimizes redundancy.

3. In addition to removing undesirable characteristics, normalization also eliminates ___ anomalies.

A. Insert
B. Update
C. Delete
D. All of the above

Answer: D) All of the above

Explanation:

In addition to removing undesirable characteristics, normalization also eliminates insert, update, and delete anomalies.

Discuss this Question

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4. A common approach to normalization is to ___ the larger table into smaller tables and link them together by using relationships.

A. Add
B. Subtract
C. Multiply
D. Divide

Answer: D) Divide

Explanation:

A common approach to normalization is to divide the larger table into smaller tables and link them together by using relationships.

Discuss this Question

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5. Redundancy is reduced in a database table by using the ___ form.

A. Abnormal

Answer: B) Normal

Explanation:

Redundancy is reduced in a database table by using the normal form.

Discuss this Question

6. In practical applications, how many types of Normal Forms are there?

A. 3
B. 4
C. 5
D. 6

Answer: B) 4

Explanation:

There are 4 types of normal forms.

Discuss this Question

C. 3NF
D. 10NF

Answer: D) 10NF

Explanation:

10NF is not a type of Normal Form.

Discuss this Question

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8. Which of the following is a type of Normal Form?

A. ACNF
B. BCNF
C. CCNF
D. DCNF

Answer: B) BCNF

Explanation:

BCNF is a type of Normal Form.

Discuss this Question

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9. When a relation contains an atomic value, it is a ___ relation.

A. 1NF
B. 2NF
C. 3NF
D. BCNF

Answer: A) 1NF

Explanation:

When a relation contains an atomic value, it is a 1NF relation.

10. 2NF relations are those that are in 1NF with all the attribute types dependent on the ___ key.

A. Primary
B. Foreign
C. Composite
D. Alternate

Answer: A) Primary

Explanation:

2NF relations are those that are in 1NF with all the attribute types dependent on the primary key.

Discuss this Question

11. When a relation is in 2NF and there is ___, it is in 3NF.

A. Transition Dependency
B. No Transition Dependency
C. Relational Dependency
D. No Relational Dependency

When a relation is in 2NF and there is no transition dependency, it is in 3NF.

Discuss this Question

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12. A relation is in ___ if it is in Boyce Codd normal form and does not have any multivalued dependencies.

A. 1NF
B. 2NF
C. 3NF
D. 4NF

Answer: D) 4NF

Explanation:

A relation is in 4NF if it is in Boyce Codd normal form and does not have any multivalued dependencies.

Discuss this Question

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13. If a relation has a 4NF and no join dependency, and when it joins, it should be___, it is considered 5NF.

A. Lossful
B. Lesser
C. Lossless
D. Full

Answer: C) Lossless

Explanation:

If a relation has a 4NF and no join dependency, and when it joins, it should be lossless, it is considered 5NF.

Discuss this Question

A. If a relation contains an atomic value, it will be 1NF.
B. A table attribute cannot contain more than one value, according to this rule.
C. A single-valued attribute can only be stored in it.
D. All of the above

Answer: D) All of the above

Explanation:

In case of First Normal Form (1NF) -

a. If a relation contains an atomic value, it will be 1NF.
b. A table attribute cannot contain more than one value, according to this rule.
c. A single-valued attribute can only be stored in it.

Discuss this Question

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15. Neither multivalued nor composite attributes, nor their combinations, may be used in the ___ normal form.

A. First
B. Second
C. Third
D. fourth

Answer: A) First

Explanation:

Neither multivalued nor composite attributes, nor their combinations, may be used in the first normal form.

Discuss this Question

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16. What is TRUE about the Second Normal Form (2NF)?

A. Relational must belong to 1NF in the 2NF.
B. All attributes other than the primary key are fully functional in the second normal form
C. Both A and B
D. None of the above

Answer: C) Both A and B

Explanation:

In case of Second Normal Form (2NF) -

a. Relational must belong to 1NF in the 2NF.
b. All attributes other than the primary key are fully functional in the second normal form

Discuss this Question

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17. What is TRUE about the Third Normal Form (3NF)?

A. When a relation is in 2NF and does not contain transitive partial dependencies, it will be in 3NF.
B. Data duplication is reduced by using 3NF.
C. It helps maintain the integrity of the data.
D. All of the above

Answer: D) All of the above

Explanation:

In case of Third Normal Form (3NF) -

b. Data duplication is reduced by using 3NF.
c. It helps maintain the integrity of the data.

Discuss this Question

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18. Non-prime attributes cannot be transitively dependent, so the relation must have the ___ normal form.

A. First
B. Second
C. Third
D. Fourth

Answer: C) Third

Explanation:

Non-prime attributes cannot be transitively dependent, so the relation must have the third normal form.

Discuss this Question

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19. There needs to be which of the following conditions for each nontrivial dependency of function X on function Y for a relation to be in third normal form.

A. A super key is X.
B. Every element of Y is a part of some candidate key, i.e, Y is a prime attribute.
C. Either A or B
D. None of the above

Answer: C) Either A or B

Explanation:

There needs to be at least one of the following conditions for each nontrivial dependency of function X on function Y for a relation to be in third normal form.

Discuss this Question

20. What is TRUE about BCNF?

A. The advanced version of 3NF is BCNF.
B. BCNF is stricter than 3NF.
C. The super key is X for any functional dependency of X -> Y in the table.
D. All of the above

Answer: D) All of the above

Explanation:

In case of BCNF -

a. The advanced version of 3NF is BCNF.
b. BCNF is stricter than 3NF.
c. The super key is X for any functional dependency of X -> Y in the table.

Discuss this Question

21. A relation is in ___ if it is in Boyce Codd normal form and does not have any multivalued dependencies

C. 3NF
D. 4NF

Answer: D) 4NF

Explanation:

A relation is in 4NF if it is in Boyce Codd normal form and does not have any multivalued dependencies.

Discuss this Question

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22. If more than one value of B is present for a single value of A in a dependency A -> B, then the relationship is ___.

A. Single
B. Multi-valued
C. Both a and b
D. None of the above

Answer: B) Multi-valued

Explanation:

If more than one value of B is present for a single value of A in a dependency A*B, then the relationship is multi-valued.

Discuss this Question

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23. What is TRUE about 5NF?

A. A relation is in 5NF if it is in 4NF, does not contain any join dependencies, and has lossless joining.
B. In order to avoid redundancy, 5NF ensures that the tables are broken up in as many ways as possible.
C. Project-join normal form (5NF) is sometimes referred to as Project-join NF.
D. All of the above

Explanation:

In case of 5NF -

a. A relation is in 5NF if it is in 4NF, does not contain any join dependencies, and has lossless joining.
b. In order to avoid redundancy, 5NF ensures that the tables are broken up in as many ways as possible.
c. Project-join normal form (5NF) is sometimes referred to as Project-join NF.

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