Database Questions & Answers – Normal Forms

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This set of Database Multiple Choice Questions & Answers (MCQs) focuses on “Normal Forms”.

1. In the _____ normal form, a composite attribute is converted to individual attributes.
a) First
b) Second
c) Third
d) Fourth

View Answer

Answer: a
Explanation: The first normal form is used to eliminate the duplicate information.

2. A table on the many side of a one to many or many to many relationship must:
a) Be in Second Normal Form (2NF)
b) Be in Third Normal Form (3NF)
c) Have a single attribute key
d) Have a composite key

View Answer

Answer: d
Explanation: The relation in second normal form is also in first normal form and no partial dependencies on any column in primary key.

3. Tables in second normal form (2NF):
a) Eliminate all hidden dependencies
b) Eliminate the possibility of a insertion anomalies
c) Have a composite key
d) Have all non key fields depend on the whole primary key

View Answer

Answer: a
Explanation: The relation in second normal form is also in first normal form and no partial dependencies on any column in primary key.

4. Which-one ofthe following statements about normal forms is FALSE?
a) BCNF is stricter than 3 NF
b) Lossless, dependency -preserving decomposition into 3 NF is always possible
c) Loss less, dependency – preserving decomposition into BCNF is always possible
d) Any relation with two attributes is BCNF

View Answer

Answer: c
Explanation: We say that the decomposition is a lossless decomposition if there is no loss of information by replacing r (R) with two relation schemas r1(R1) andr2(R2).

5. Functional Dependencies are the types of constraints that are based on_____
a) Key
b) Key revisited
c) Superset key
d) None of the mentioned

View Answer

Answer: a
Explanation: Key is the basic element needed for the constraints.

6. Which is a bottom-up approach to database design that design by examining the relationship between attributes:
a) Functional dependency
b) Database modeling
c) Normalization
d) Decomposition

View Answer

Answer: c
Explanation: Normalisation is the process of removing redundancy and unwanted data.

7. Which forms simplifies and ensures that there are minimal data aggregates and repetitive groups:
a) 1NF
b) 2NF
c) 3NF
d) All of the mentioned

View Answer

Answer: c
Explanation: The first normal form is used to eliminate the duplicate information.

8. Which forms has a relation that possesses data about an individual entity:
a) 2NF
b) 3NF
c) 4NF
d) 5NF

View Answer

Answer: c
Explanation: A Table is in 4NF if and only if, for every one of its non-trivial multivalued dependencies X \twoheadrightarrow Y, X is a superkey—that is, X is either a candidate key or a superset thereof.

9. Which forms are based on the concept of functional dependency:
a) 1NF
b) 2NF
c) 3NF
d) 4NF

View Answer

Answer: c
Explanation: The table is in 3NF if every non-prime attribute of R is non-transitively dependent (i.e. directly dependent) on every superkey of R.

10.

Empdt1(empcode, name, street, city, state, pincode).

For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode. In normalization terms, empdt1 is a relation in
a) 1 NF only
b) 2 NF and hence also in 1 NF
c) 3NF and hence also in 2NF and 1NF
d) BCNF and hence also in 3NF, 2NF and 1NF

View Answer

Answer: b
Explanation: The relation in second normal form is also in first normal form and no partial dependencies on any column in primary key.

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