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MSDS 7330 section 402

Quiz 7

1. **d) All of the above.** Normalization is done to reduce redundancies and ease the process of retrieving information.
2. **d) is a technical exercise that does not change the business rules.** Normalization is simply how the database is organized and doesn’t determine what gets put in or why.
3. **d) preserve data quality.** It reduces redundancy and “chains” of functional dependencies so changing the data in the DB is easier.
4. **a) denormalization is common in order to provide efficient report generation.** Since normalization results in many tables it’s visually easier to have the info in as few tables as possible.
5. **b) contains more records than the non-normalized** For 1NF an attribute must be atomic, if it’s not then a new record must be created until they are.
6. **d) every attribute in every row can contain only one single (atomic) value.** All other answers contradict the definition of 1NF except B which is for 2NF.
7. **b) it doesn’t contain any repeating groups.** If this is the case it should be split into more than one table to make them all 1NF. The other options (A and D) are more for the other normal forms and C doesn’t tell you about what normal form it is in.
8. **c) it is in 1NF and every non-key attribute is fully functionally dependent on the primary key**. The primary key would be less effective if not.
9. **b) it is in 2NF and no non-key attribute is transitively dependent on the primary key** The table can be broken up into several to remove transitive dependencies and get 3NF
11. **a) Link the relations by a common field. d) Create a primary key(s) for the new relation.** If there is no common field then the relations are isolated from each other and tuples must be identifiable in the new table(s).
12. **a) First Normal Form (1NF)** There are transitive dependencies.
13. **d) CourseID ! Topic** **and b) CourseID ! Room, Topic** None of the other functional dependencies hold while course ID does determine the topic as well as room.
14. **a) stored in exactly one location** This is the goal of normalization.
15. **a) a unique identifier for a row in a table, used to select the row in queries**. Keys are used to distinguish different records from eachother.
16. **b) inconsistent. d) outdated.** The more places information is kept the easier it is to forget or miss it when updating.
17. **c) UPDATE anomaly.** You are updating the record and not deleting, creating, or inserting it.
19. **d) All of the above.**
20. **b) 2NF** Before splitting some non-key attributes may not be fully dependent on the primary key.
21. **b) 2NF.** In 2NF all non-key attributes are dependent on the key.