Computer Science - ICS Part 2 Computer Science Chapter 4 Short Questions Preparation

Q1. How first normal form is achieved?

Ans 1: A relation R is in First Normal Form if and only if all underlying domains contain atomic values only.The Pre-requisite is that, A relation has a always a primary key associated with it. Thus, we can define it as follow:1) All entities must have a key,composed of a combination of one or more attributes which uniquely one occurrence of the entity.2) For any single occurrence of an entity,each attribute must have one and only one value or "An attributes must have no REPEATING GROUPS".

Q2. What is homonym?

Ans 1: A homonym is created when same name is used for two attributes. Consider the following example :Customer SupplierCompany_Name Company_NameWe Should use Supplier _Name instead of Company _Name in Supplier

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Q3. What is meant by referential integrity?

Ans 1: Referential Integrity is a constraint on foreign key values that states that if a foreign key exist in a relation than either the foreign key value must match the primary key value of some tuple in its home relation or the foreign key value must be completed null.

Q4. Write types of Anomalies?

Ans 1: Database Anomalies: Anomalies are problems that can occur in poorly planned, un-normalized database where all the data is stored in one table (a flat -file database)Types of Anomalies:a) Insertion Anomalyb) Deletion Anomalyc) Modification Anomaly

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Q5. Define 3rd normal form .

Ans 1: A relation is in third normal form (3 NF) if it is in 2 NF and no transitive dependencies exist.A more precise definition for 3 NF is : "A non-key attribute must not depend on any other non-key attributes " or if a non-key attributes value can be obtained simply by Knowing the value of another non-key attribute, the relation is not in 3 NF.

Q6. How is Entity Integrity attained?

Ans 1: The entity integrity can be attained by specifying primary key in a relation. When a primary key constraint is specified on a relation, the DBMS automatically applies the entity integrity on the attribute that is used as primary key .

Q7. Define Entity Integrity.

Ans 1: Entity Integrity is a constraint on primary values that states that no attribute of a primary key should contain nulls.

Q8. Define Insertion Anomaly.

Ans 1: An Insert Anomaly occurs when certain attributes cannot be inserted into the database without the presence of other attributes. For Example this is the converse of delete anomaly.we can't add a new course unless we have at least one student enrolled on the course.

Q9. Define Transitive Dependency .

Ans 1: Transitive Dependency is a functional dependency in a relation between two (or more) non-key attributes.It is also defined as "It states that in a relation R, if an attribute B is functionally dependent on an attribute A,and the attribute C is functionally dependent on the attribute B This implies that the attributes C is functionally dependent on the attribute A.

Q10. Define partial dependency .

Ans 1: A partial functional dependency exist when one or more non- key attributes (Such as NAME) are functionally dependent on part (but not all) of the primary key

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