Name : Vaibhav kumar chauhan

Admission Roll.no : 19021507

Date : 7/9/21

Father name : Bhagwan kumar

Subject : Data Base management System

Course : Btech

Subject-code : TCS-503

Ques 1 :-

a) ~~Keys can be used~~

The proper use of foreign keys can minimize data redundancy and reduce the change of destructive anomalies appearing.

totally removed from the database. It cannot be although there should be controlled redundancy for instance, Consider a relation Student. report to Store the marks of a student for a course. Comprising some optional subject but all the should not problems cause d due to redundancy are - insertion anomaly, Deletion anomaly and updation anomaly.

b) Super key is simply to identify the tuples of the specified table in the database. It is the superset whereas the candidate key is a part of a super key. only. So, all those attributes in a table that is capable of identifying the other attributes.

Shaurabh

of the table in a unique manner are all super key.

Emp-Id	Emp-name	Emp-email
01	Saurav	Saurav@email.com
02	Vaibhav	V@email.com
03	Vashu	Va@email.com

ii) It is not mandatory to define a primary key, but there cannot be a relationship without the candidate key each primary key can be a candidate key but vice-versa is not possible.

Ex:- Consider a table "Student" with Primary key columns (roll-no, name, class, DOB, email, mobile) Here roll-no column can be a primary key for the relationship because it identifies the student record.

Proof :- The roll-no, mobile & email columns can be candidate key. key in the given table because they can uniquely identify student record.

Shreyas.

Ques 2:-

a) Differentiate between 2tier and 3tier database architecture :-

=> Two-Tier Database Architecture

1. It is a client-Server Architecture.
2. Two-tier architecture consists of two layers: Client Tier and Database.
3. It is easy to build & maintain
4. Two-tier architecture runs slower.
5. It is less secured as client can communicate with database directly.

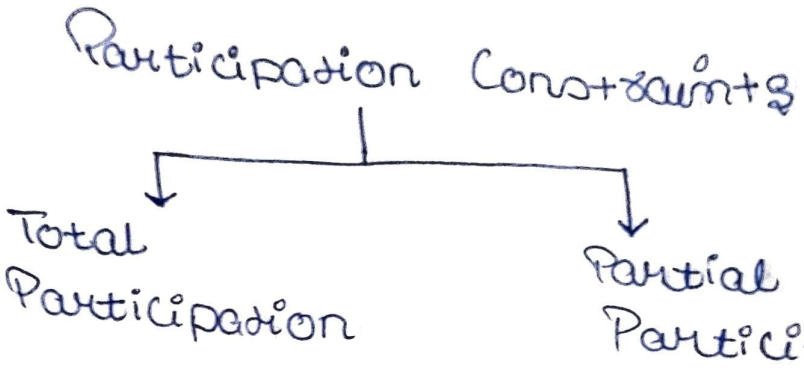
=> Three-Tier Database Architecture.

1. It is a web-based application.
2. Three-tier arch. consist of 3 layer Client, Business & Data.
3. It is complex to build & maintain.
4. Three-tier architecture runs faster.
5. It is secured as client is not allowed to comm. with database directly.

Ghauha!

Ques 2 a) ii)

=> Types of Participation Constraints -



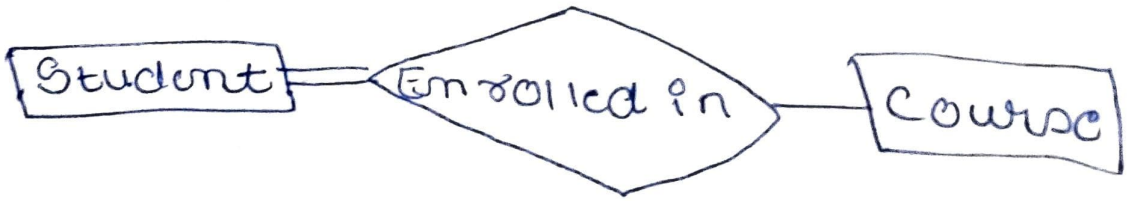
1. Total participation :-

→ It specifies that each entity in the set must compulsorily participate in at least one Relationship instance in that relationship set.

→ That is why, it is also called as mandatory participation.

→ Total participation is represented using a double line between in entity set & relationship set.

Example :



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- Double line between the entity set "Student" & relationship set "Enrolled in" signifies total participation.

2. Partial Participation:-

→ It specifies that each entity in the entity set may or may not participate in the relationship instance in that relationship set.

→ That is why it is also called as optional participation.

→ Partial participation is represented using line between the entity set & relationship set.

Example:

→ Single line b/w the entity set "Course" & relationship set "Enrolled in" signifies partial participation.

Shreehari