

Answer Script

Question No. 01

Why is composite key called composite primary key? Describe with proper explanation. - **10**

Answer No. 01

A composite key is called a composite primary key when it is used to uniquely identify records within a relational database table.

Explanation:

A **composite key** is a combination of two or more columns (attributes) that together uniquely identify a record in a database table.

A **primary key** is a special type of key in a relational database that uniquely identifies each record in a table.

When a composite key is designated as the primary key for a table, it becomes a composite primary key. This means that the combination of the columns in the composite key must be unique for each record in the table, fulfilling the requirements of a primary key. That's why it's called as composite primary key.

Question No. 02

What is the benefit of using relational database over non-relational database? - 10

Answer No. 02

Using a relational database over a non-relational database offers several benefits. Some of the benefits are explained below:

1. Relational databases enforce a predefined structure through the use of tables, columns, and relationships, ensuring data integrity and consistency.
2. Relational databases provide a flexible schema, allowing user to modify the structure without affecting existing data. User can add or modify tables, columns, and relationships as needed.
3. Relational databases support powerful query languages like SQL (Structured Query Language), which provide a standardized and expressive way to retrieve, manipulate, and analyze data.
4. Relational databases are very good at managing relationships between entities through the use of foreign keys and referential integrity.
5. Relational databases adhere to ACID (Atomicity, Consistency, Isolation, Durability) properties, ensuring transactional consistency and reliability.
6. Relational databases have been around for decades and have a mature ecosystem with a wide range of tools, libraries, and frameworks built around them.

Question No. 03

Explain foreign key with proper examples. If foreign key didn't exist, what would be the problem? - **10**

Answer No. 03

Foreign Key: A foreign key is a column or set of columns in a table that refers to the primary key of another table. It establishes a relationship between two tables.

Example: Consider two tables, "Orders" and "Customers." The "Orders" table has a foreign key referencing the primary key in the "Customers" table.

Table: Customers

- CustomerID (Primary Key)
- Name
- Email

Table: Orders

- OrderID (Primary Key)
- CustomerID (Foreign Key)
- Product
- Quantity

In this case, the "CustomerID" column in the "Orders" table is a foreign key that refers to the primary key "CustomerID" in the "Customers" table. It establishes a relationship between the two tables, allowing to link orders to specific customers.

If foreign key didn't exist, the problems will be:

1. Without foreign keys, there would be no enforced relationship between tables, leading to the possibility of inconsistent or invalid data.
2. Without foreign key constraints, it would be possible to insert incorrect or non-existent values in the referencing columns, breaking the integrity of the data.
3. Without foreign keys, querying and retrieving related data would require more complex and error-prone manual joins across tables.

Question No. 04

What is the difference between database and MySQL? - 10

Answer No. 04

Database	MySQL
A database is an organized collection of data stored and managed in a structured format .	MySQL is a popular relational database management system that uses Structured Query Language to manage and manipulate data within a database.
The term "database" is a broad concept that includes various types, including relational databases, object-oriented databases, NoSQL databases, etc.	MySQL is specifically an RDBMS, which means it follows the relational model for organizing and managing data.
Databases provide a platform for storing, organizing, and retrieving data efficiently, enabling data management and data manipulation operations.	MySQL offers the functionality to create and manage relational databases, including features like defining tables, establishing relationships between tables, querying data using SQL, ensuring data integrity, etc.
Databases can be implemented using various software systems and technologies, such as MySQL, Oracle, Microsoft SQL Server, MongoDB, etc.	MySQL is a specific implementation of a relational database management system. It is an open-source RDBMS developed by Oracle Corporation.
The term "database" is a general concept applicable to various platforms, programming languages, and software systems.	MySQL is a specific software system that provides a database management solution.

Question No. 05

Suppose you have to make a table named student. The table will have the fields - **15**

- a. Name
- b. Roll
- c. Class
- d. Blood group
- e. Contact No
- f. Result
- g. Date of Birth
- h. Age

Write the datatypes used here

Answer No. 05

Fields	Datatypes
Name	VARCHAR
Roll	INT
Class	INT
Blood group	VARCHAR
Contact No	INT
Result	FLOAT
Date of Birth	DATE
Age	INT

Question No. 06

Create a table in MySQL for the student table described in question 5. - **15**

Answer No. 06**Syntax:**

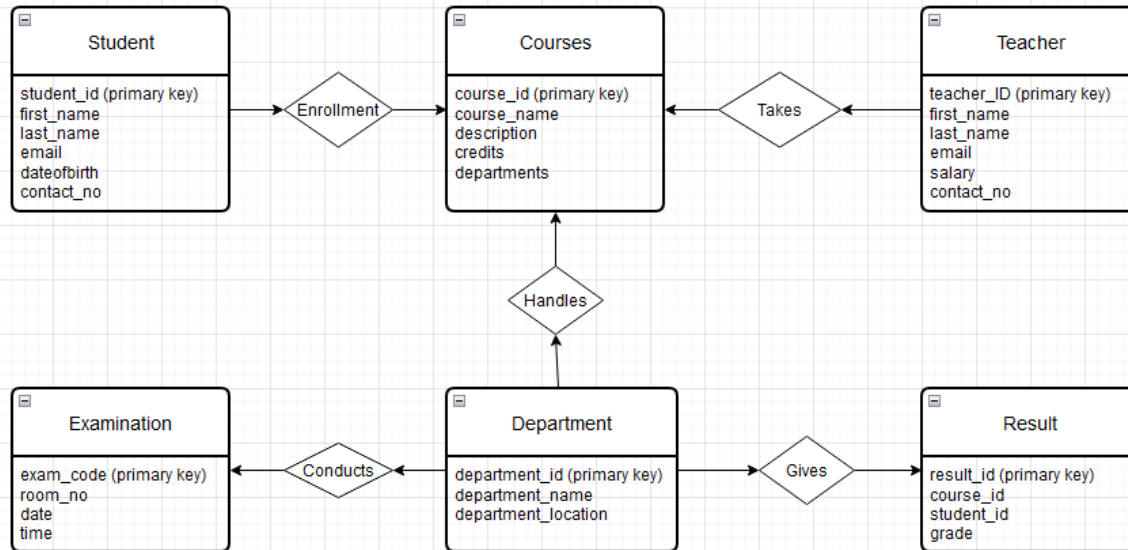
```
create table student(  
    Name VARCHAR(30),  
    Roll INT,  
    Class INT,  
    BloodGroup VARCHAR(30),  
    ContactNo INT,  
    Result FLOAT,  
    DateOfBirth DATE,  
    Age INT  
);
```

Question No. 07

Draw a ERD for a School/College management system. - 20

Answer No. 07

ERD for School / College management system:



Question No. 08
Rename the table named student to a name whatever you want. And then delete the table. Write the SQL syntaxes also. - 10
Answer No. 08
Syntaxes: rename table student to person; drop table person;