SQL Assingment 1

Answer 1.

RDBMS is a type of database management system that stores data in a table form (rows and columns) which contains Data related to each other. As the stored data is related to each other thus this type of DBMS is known as RDBMS (Relational Database Management System)

Advantages:

Relational databases have several advantages compared to other database formats:

1. Ease of Use
2. Reduced redundancy
3. Ease of backup and disaster recovery

Answer 2.

ACID properties are defined as:

Atomicity: The entire transaction takes place at once or doesn't happen at all.

Consistency: The database must be consistent before and after the transaction.

Isolation: Multiple transactions occur independently without interference.

Durability: After the successful completion of a transaction, changes to data persist and are not undone, even in the event of a system failure.

NOTE: These properties enable reliable transaction processing.

Answer 3.

Normalization is the process of reorganizing data in a database so that it meets two basic requirements:

1. There is no redundancy of data, all data is stored in only one place.
2. Data dependencies are logical, all related data items are stored together.

Normalization allows databases to take up as little disk space as possible, resulting in increased performance.

Normalization is also known as data normalization.

Answer 4.

Five types of SQL queries are

1. Data Query Language (DQL)

Select

2. Data Definition Language (DDL)

Create table, Alter Table, Drop Table

3. Data Manipulation Language (DML)

Insert, Update, Delete

4. Data Control Language (DCL)

Grant, Revoke

5. Transaction Control Language(TCL)

Answer 5.

Primary key: Is that column of the table whose every row data is uniquely identified. Every row in the table must have a primary key and no two rows

can have the same primary key. Primary key value can never be null nor can be modified or updated.

Eg: If a table has 3 columns

Aadhar card no, Mobile no, Name, Age

Here only Aadhar card no is unique so it can be a primary key given it should not be null.

Composite key: when table don't have any column which is not capable of getting unique row then we might need more than 2 columns to get unique row. Then it's called composite key.

Eg: For class student table with below 2 columns:

First name, Last name

Here first name column can't able to get exact single row. So here to achieve uniqueness we make composite key as (first name, last name).

Composite key ensures that there are no duplicate combination of first name and last name.

Primary key:

```
CREATE TABLE Persons (
    ID int NOT NULL,
    LastName varchar(255) NOT NULL,
    FirstName varchar(255),
    Age int,
    PRIMARY KEY (ID)
);
```

Composite key:

```
CREATE TABLE Persons (
ID int NOT NULL,
LastName varchar(35),
FirstName varchat(35),
Age int,
PhoneNo int NOT NULL,
PRIMARY KEY(ID, PoneNo)
);
```