

**WORKSHEET 7 SQL**

**Q1 and Q2 have one or more correct answer. Choose all the correct option to answer your question.**

1. The primary key is selected from the  
B. Candidate keys
2. Which is/are correct statements about primary key of a table?  
B. Primary keys cannot contain NULL values...  
C. A table can have only one primary key with single or multiple fields

**Q3 to Q10 have only one correct answer. Choose the correct option to answer your question.**

3. Which SQL command is used to insert a row in a table?  
C. Insert
4. Which one of the following sorts rows in SQL?  
C. ORDERBY
5. The SQL statement that queries or reads data from a table is  
C. SELECT
6. Which normal form is considered adequate for relational database design?  
C. 3NF
7. SQL can be used to  
C. All of the above can be done by SQL
8. SQL query and modification commands make up  
B. DML
9. The result of a SQL SELECT statement is a(n).  
B. Table
10. Second normal form should meet all the rules for  
A. 1 NF  
B. 2 NF

**Q11 to Q15 are subjective answer type questions, Answer them briefly.**

11. What are joins in SQL?

Ans. Joins in SQL are used to combine rows from two or more tables based on a related column between them. The purpose of joining tables is to get a result set that contains information from both tables, linked by the related column.

There are several types of joins in SQL, including:

**INNER JOIN:** returns only the matching rows from both tables. It requires that the related columns have matching values in both tables.

**LEFT JOIN:** returns all the rows from the left table and the matching rows from the right table. If there is no match in the right table, the result set will contain NULL values for the right table columns.

**RIGHT JOIN:** returns all the rows from the right table and the matching rows from the left table. If there is no match in the left table, the result set will contain NULL values for the left table columns.

**FULL OUTER JOIN:** returns all the rows from both tables, including the non-matching rows. If there is no match in either table, the result set will contain NULL values for the columns of the table that does not have a matching row.

Joins are powerful tools in SQL that enable complex queries and analysis of data from multiple tables.

12. What are the different types of joins in SQL?

Ans. There are several types of joins in SQL, which include:

**INNER JOIN:** returns only the matching rows from both tables. It requires that the related columns have matching values in both tables.

**LEFT JOIN (or LEFT OUTER JOIN):** returns all the rows from the left table and the matching rows from the right table. If there is no match in the right table, the result set will contain NULL values for the right table columns.

**RIGHT JOIN (or RIGHT OUTER JOIN):** returns all the rows from the right table and the matching rows from the left table. If there is no match in the left table, the result set will contain NULL values for the left table columns.

**FULL OUTER JOIN (or FULL JOIN):** returns all the rows from both tables, including the non-matching rows. If there is no match in either table, the result set will contain NULL values for the columns of the table that does not have a matching row.

**CROSS JOIN (or CARTESIAN JOIN):** returns the Cartesian product of the two tables, which means that every row from the first table is combined with every row from the second table. It does not require a common column between the tables.

**SELF JOIN:** is a join where a table is joined with itself. It is useful when a table contains hierarchical data or when there are multiple relationships between rows in the same table.

Each type of join serves a specific purpose and can be used to extract data from two or more related tables in different ways, depending on the needs of the query.

13. What is SQL Server?

Ans. SQL Server is a relational database management system (RDBMS) developed by Microsoft. It is a software product that is used to store, manage, and retrieve data from relational databases. SQL Server uses SQL (Structured Query Language) as its standard programming language to manage the data in the database.

SQL Server is a powerful and scalable database platform that can handle large volumes of data and multiple concurrent users. It supports a wide range of data types and provides advanced features such as transaction management, security, backup and recovery, and data analysis tools.

SQL Server supports various editions, including Express, Standard, Enterprise, and Developer editions, which differ in their features and licensing models. It is widely used by businesses and organizations of all sizes for managing their data and building custom applications. Additionally, Microsoft provides various tools and services, such as SQL Server Management Studio, to help users manage and work with SQL Server databases.

14. What is primary key in SQL?

Ans. In SQL, a primary key is a column or a set of columns in a table that uniquely identifies each row in the table. It is a special type of constraint that ensures the integrity and consistency of the data in the table. The primary key constraint ensures that each row in the table has a unique value or combination of values for the primary key column(s), and that the primary key column(s) cannot contain NULL values.

The primary key is used to create relationships between tables, and it is often used as a reference by other tables in a database. By using the primary key, it is possible to join tables and retrieve data from multiple tables using a single SQL statement.

The primary key can be defined at the time of table creation or added later using the ALTER TABLE statement. In addition, the primary key can be a single column or a combination of columns. When multiple columns are used as a primary key, they are called composite primary keys.

In summary, a primary key is an essential component of a relational database in SQL, and it plays a crucial role in ensuring the accuracy and consistency of data.

#### 15. What is ETL in SQL?

Ans. ETL stands for Extract, Transform, and Load. It is a process of integrating data from various sources, transforming the data to match the target system's requirements, and loading the transformed data into a target database or data warehouse.

In SQL, ETL involves using SQL queries and scripts to extract data from source systems, transform the data by performing operations such as filtering, sorting, aggregating, and cleaning, and load the transformed data into a target database or data warehouse using SQL INSERT, UPDATE, and DELETE statements.

The ETL process is critical for data integration and migration, as it enables organizations to consolidate data from multiple sources, standardize and cleanse the data, and make it available for reporting and analysis. SQL is a powerful tool for ETL, as it provides a wide range of data manipulation functions and has strong support for relational databases.

In addition, there are several third-party ETL tools available that can simplify the ETL process and automate many of the tasks involved in extracting, transforming, and loading data. These tools often provide a graphical interface for designing ETL workflows and can integrate with a variety of data sources and target systems.