# 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**

A. Composite keys

**B. Candidate keys**

C. Foreign keys

D. Determinants

**2. Which is/are correct statements about primary key of a table?**

A. Primary keys can contain NULL values.

**B. Primary keys cannot contain NULL values…**

**C. A table can have only one primary key with single or multiple fields….**

D. A table can have multiple primary keys 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?**

A. Select

B. Create

**C. Insert**

D. Drop

**4. Which one of the following sorts rows in SQL?**

A. SORTBY

B. ALIGNBY

**C. ORDERBY**

D. GROUPBY

**5. The SQL statement that queries or reads data from a table is**

A. QUERY

B. READ

**C. SELECT**

D. QUERY

**6. Which normal form is considered adequate for relational database design?**

A. 1NF

B. 2NF

**C. 3NF**

D. 4NF

**7. SQL can be used to**

A. Create database structures only

B. Modify database data only

**C. All of the above can be done by SQL**

D. Query database data only

**8. SQL query and modification commands make up**

A. DDL

**B. DML**

C. HTML

D. XML

**9. The result of a SQL SELECT statement is a(n).**

A. File

**B. Table**

C. Report

D. Form

**10. Second normal form should meet all the rules for**

**A. 1 NF**

B. 2 NF

C. 3 NF

D. 4 NF

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

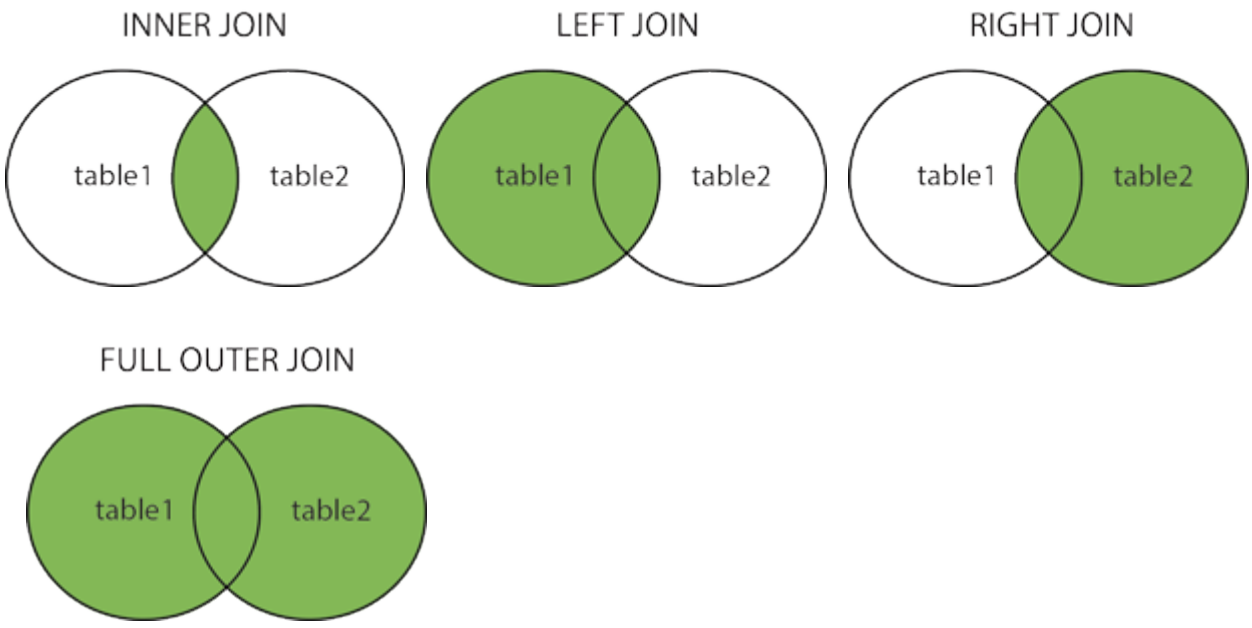
### 11. What are joins in SQL?

**Ans:** **SQL Join** statement is used to combine data or rows from two or more tables based on a common field between them.

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

**Ans:** The different types of joins in SQL are:

- **(INNER) JOIN:** Returns records that have matching values in both tables
- **LEFT (OUTER) JOIN:** Returns all records from the left table, and the matched records from the right table
- **RIGHT (OUTER) JOIN:** Returns all records from the right table, and the matched records from the left table
- **FULL (OUTER) JOIN:** Returns all records when there is a match in either left or right table



**13. What is SQL Server?**

**Ans:** SQL Server is a relational database management system (RDBMS) developed and marketed by Microsoft. As a database server, the primary function of the SQL Server is to store and retrieve data used by other applications.

**14. What is primary key in SQL?**

**Ans:** A primary key is a field in a table which uniquely identifies each row/record in a database table. Primary keys must contain unique values. A primary key column cannot have NULL values.

A table can have only one primary key, which may consist of single or multiple fields. When multiple fields are used as a primary key, they are called a composite key.

If a table has a primary key defined on any field(s), then you cannot have two records having the same value of that field(s).

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

**Ans:** ETL stands for Extraction, Transformation, and loading. ETL is a process which is used to Extract data, Transform the data and loading of the data to the final source. ETL follows a process of loading the data from the source system to the Data Warehouse.

Steps to perform the ETL process are:

**Extraction:** Extraction is the first process where data from different sources like text file, XML file, Excel file, or various other sources are collected.

**Transformation:** Transformation is the second step of the ETL process, where all the collected data has been transformed into the same format. The format can be anything as per our requirement. In this step, a set of rules of functions are applied to the extracted data to convert it into a single standard format. It may involve the following tasks:

- **Filtering:** Only specific attributes are loading into the data warehouse.

- **Cleaning:** Filling up the null values with specific default values.
- **Joining:** Join the multiple attributes into the one.
- **Splitting:** Splitting the single attribute into multiple attributes.
- **Sorting:** Sort the tuples based on the attributes.

**Loading:** Loading is the final step of the ETL process. The big chunk of data is collected from various sources, transformed them, and finally loaded to the data warehouse.

ETL is a process to extract the data from different source systems, transform the data, and load the data into the data warehouse. ETL process requires active input from various stakeholders including, developers, analysts, testers, top executive.

ETL (Extract, Transform and Load) is an automated process of extracting the information from the raw data which is required for analysis and transforms it into a format that can serve business needs and loads it into a data warehouse. ETL typically summarize data to reduce its size and improve performance for a specific type of analysis.

ETL process uses the pipelining concept. In this concept, as soon as the data is extracted, it can be transformed, and during the period of transformation, new data can be obtained. And when the modified data is being loaded into the data warehouse, the already extracted data can be transformed.