

## SQL Worksheet

1. The primary key is selected from the

Ans : Candidate keys

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

Ans : Primary keys cannot contain NULL values and A table can have only one primary key with single or multiple field

3. Which SQL command is used to insert a row in a table?

Ans : Insert

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

Ans : ORDERBY

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

Ans : SELECT

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

Ans : 3NF

7. SQL can be used to

Ans : All of the above can be done by SQL

8. SQL query and modification commands make up

Ans : DML

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

Ans : Table

10. Second normal form should meet all the rules for

Ans : 2 NF

11. What are joins in SQL?

Ans : A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

SQL Join statement is used to combine data or rows from two or more tables based on a common field between them. Different types of Joins are as follows:

INNER JOIN

LEFT JOIN

RIGHT JOIN

FULL JOIN

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

Ans : The different types of the JOINS in SQL:

(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, or RDBMS, developed and marketed by Microsoft.

Similar to other RDBMS software, SQL Server is built on top of SQL, a standard programming language for interacting with relational databases. SQL Server is tied to Transact-SQL, or T-SQL, the Microsoft's implementation of SQL that adds a set of proprietary programming constructs..

SQL Server consists of two main components:

- 1)Database Engine
- 2)SQLLOS

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, which stands for extract, transform and load, is a data integration process that combines data from multiple data sources into a single, consistent data store that is loaded into a data warehouse or other target system.

ETL provides the foundation for data analytics and machine learning workstreams. Through a series of business rules, ETL cleanses and organizes data in a way which addresses specific business intelligence needs, like monthly reporting, but it can also tackle more advanced analytics, which can improve back-end processes or end user experiences. ETL is often used by an organization to:

Extract data from legacy systems

Cleanse the data to improve data quality and establish consistency

Load data into a target database

ETL works as below:

The easiest way to understand how ETL works is to understand what happens in each step of the process.

Extract

During data extraction, raw data is copied or exported from source locations to a staging area.

Data management teams can extract data from a variety of data sources, which can be structured or unstructured. Those sources include but are not limited to:

- SQL or NoSQL servers
- CRM and ERP systems
- Flat files
- Email
- Web pages

Transform

In the staging area, the raw data undergoes data processing. Here, the data is transformed and consolidated for its intended analytical use case. This phase can involve the following tasks:

- Filtering, cleansing, de-duplicating, validating, and authenticating the data.

- Performing calculations, translations, or summarizations based on the raw data. This can include changing row and column headers for consistency, converting currencies or other units of measurement, editing text strings, and more.
- Conducting audits to ensure data quality and compliance
- Removing, encrypting, or protecting data governed by industry or governmental regulators
- Formatting the data into tables or joined tables to match the schema of the target data warehouse.

#### Load

In this last step, the transformed data is moved from the staging area into a target data warehouse. Typically, this involves an initial loading of all data, followed by periodic loading of incremental data changes and, less often, full refreshes to erase and replace data in the warehouse. For most organizations that use ETL, the process is automated, well-defined, continuous and batch-driven.