1. **What is SQL?**  
   SQL (Structured Query Language) is a standard programming language used to manage and manipulate relational databases. It is used for querying, updating, inserting, and deleting data in a database.
2. **What are relational databases?**  
   Relational databases store data in tables with rows and columns. Each table represents a specific entity, and relationships between tables are maintained using keys like primary and foreign keys.
3. **What is a table in a database?**  
   A table is a collection of rows and columns that stores related data. Each row represents a record, and each column represents a field of data.
4. **What are the basic operations in SQL?**  
   The basic operations in SQL are:
   * **SELECT**: Retrieve data from a table.
   * **INSERT**: Add new records to a table.
   * **UPDATE**: Modify existing records in a table.
   * **DELETE**: Remove records from a table.
5. **What are SQL constraints?**  
   SQL constraints are rules applied to table columns to ensure data integrity. Common constraints include:
   * **NOT NULL**: Ensures a column cannot have a NULL value.
   * **UNIQUE**: Ensures all values in a column are unique.
   * **PRIMARY KEY**: Combines NOT NULL and UNIQUE to uniquely identify each row.
   * **FOREIGN KEY**: Establishes a relationship between two tables.
   * **CHECK**: Ensures that column values meet a specific condition.
6. **What is the difference between SQL and MySQL?**
   * **SQL**: A language used to interact with databases.
   * **MySQL**: A relational database management system (RDBMS) that uses SQL as its query language.
7. **What is a primary key?**  
   A primary key is a column or combination of columns that uniquely identifies each row in a table. It does not allow duplicate or NULL values.
8. **What is a foreign key?**  
   A foreign key is a column that establishes a relationship between two tables by referencing the primary key of another table.
9. **What is the difference between DELETE, TRUNCATE, and DROP?**
   * **DELETE**: Removes specific rows from a table; can use WHERE conditions.
   * **TRUNCATE**: Removes all rows from a table but keeps the table structure.
   * **DROP**: Deletes the entire table along with its structure.
10. **What are indexes in SQL?**  
    Indexes are database objects that improve the performance of queries by allowing quick retrieval of data.
11. **What is a view in SQL?**  
    A view is a virtual table based on the result of a SQL query. It does not store data itself but provides a simplified way to access complex queries.
12. **What is normalization in SQL?**  
    Normalization is the process of organizing data to eliminate redundancy and improve data integrity. It involves dividing large tables into smaller ones and defining relationships between them.
13. **What is a join in SQL?**  
    A join is used to combine data from two or more tables based on a related column. Common types include:
    * **INNER JOIN**: Returns matching rows from both tables.
    * **LEFT JOIN**: Returns all rows from the left table and matching rows from the right.
    * **RIGHT JOIN**: Returns all rows from the right table and matching rows from the left.
    * **FULL OUTER JOIN**: Returns all rows from both tables, with NULLs for unmatched rows.
14. **What are the types of SQL commands?**
    * **DDL (Data Definition Language):** Deals with table structure (e.g., CREATE, ALTER).
    * **DML (Data Manipulation Language):** Deals with data manipulation (e.g., INSERT, UPDATE, DELETE).
    * **DCL (Data Control Language):** Deals with access control (e.g., GRANT, REVOKE).
    * **TCL (Transaction Control Language):** Deals with transaction management (e.g., COMMIT, ROLLBACK).
15. **What is the difference between WHERE and HAVING?**
    * **WHERE**: Filters rows before any grouping.
    * **HAVING**: Filters grouped records after aggregation.
16. **What are aggregate functions in SQL?**  
    Aggregate functions perform calculations on multiple rows and return a single value. Common examples include:
    * **SUM()**: Adds numeric values.
    * **AVG()**: Calculates the average value.
    * **MAX()**: Finds the maximum value.
    * **MIN()**: Finds the minimum value.
    * **COUNT()**: Counts rows.
17. **What is the difference between UNION and UNION ALL?**
    * **UNION**: Combines results of two queries and removes duplicates.
    * **UNION ALL**: Combines results of two queries without removing duplicates.
18. **What is a subquery in SQL?**  
    A subquery is a query nested inside another query. It is used to retrieve data to be used in the main query.
19. **What is the difference between CHAR and VARCHAR?**
    * **CHAR**: Fixed-length string. Unused space is padded with spaces.
    * **VARCHAR**: Variable-length string. It uses only the required space for storage.