1. What is SQL?

Ans. Structured query language (SQL) is a programming language for storing and processing information in a relational database. A relational database stores information in tabular form, with rows and columns representing different data attributes and the various relationships between the data values. You can use SQL statements to store, update, remove, search, and retrieve information from the database. You can also use SQL to maintain and optimize database performance.

Example

To select all columns from a table (Customers) for rows where the Last_Name column has Smith for its value, you would send this SELECT statement to the server back end:

```
SELECT * FROM Customers WHERE Last_Name='Smith';
```

The server back end would reply with a result set similar to this:

```
+---------+-----------+------------+
| Cust_No | Last_Name | First_Name |
+---------+-----------+------------+
| 1001    | Smith     | John       |
| 2039    | Smith     | David      |
| 2098    | Smith     | Matthew    |
+---------+-----------+------------+
3 rows in set (0.05 sec)
```

2. What is DDL?

Ans. A data definition language (DDL) is a computer language used to create and modify the structure of database objects in a database. These database objects include views, schemas, tables, indexes, etc.

This term is also known as data description language in some contexts, as it describes the fields and records in a database table.

Example

An example of a Data Definition Language (DDL) is SQL (Structured Query Language). SQL is commonly used to create and modify the structure of a database, including tables, columns, and relationships between them.

DDL statements in SQL include:

- CREATE: used to create a new database or table
- ALTER: used to modify the structure of an existing table or database
- DROP: used to delete a database or table
- TRUNCATE: used to delete all the data in a table while keeping the table structure intact.

These statements allow a user to define the structure of a database and its objects, such as tables, columns, and constraints.

3. What is DML?

Ans. A DML (data manipulation language) refers to a computer programming language that allows you to add (insert), delete (delete), and alter (update) data in a database. A DML is typically a sublanguage of a larger database language like SQL, with the DML containing some of the language's operators. A DML (data manipulation language) is a group of computer languages that provide commands for manipulating data in databases.

Example

An example of a Data Manipulation Language (DML) is SQL (Structured Query Language). SQL is commonly used to manipulate the data within a database.

DML statements in SQL include:

- SELECT: used to retrieve data from one or more tables
- INSERT: used to add new data to a table
- UPDATE: used to modify existing data in a table
- DELETE: used to delete data from a table

These statements allow a user to manipulate the data within a database, including selecting and filtering data, adding new records, modifying existing records, and deleting records.

4. What is DQL?

Ans. The full form of DQL is Data Query Language.

DQL is a part of the grouping involved in SQL (Structures Query Language) sub-languages. The SQL sub languages have four major categories, DQL, DDL, DCL, and DML. TCL is also sometimes argued for being a part of the sub-language set. The DQL statements perform queries on the data and info within schema subjects. It gets the schema relation on the basis of the query that gets passed to it.

DQL is basically used to retrieve data. It consists of commands that do so. A user can feasibly retrieve the data in accordance with their requirements using a single command: select. Meaning, the Data Query Language used for information retrieval is the SELECT statement (retrieval from the database).

Example

Here is an example of a DQL statement:

SELECT * FROM employees WHERE department = 'Sales';

In this example, the SELECT statement retrieves all columns from the "employees" table where the "department" column is equal to 'Sales'. The " symbol means all columns will be returned. Alternatively, the specific columns could be specified by replacing the " with a comma-separated list of column names.

DQL allows users to query data from tables in various ways. Some of the commonly used DQL statements in SQL include SELECT, JOIN, UNION, and GROUP BY.