Answer 1.
A database is a structured collection of data that is organized and stored electronically. It allows for efficient data storage, retrieval, and manipulation.

SQL (Structured Query Language) databases:
- SQL databases are relational databases.
- Data is stored in tables with rows and columns, following a predefined schema.
- They use SQL for querying and managing the data.
- Examples include MySQL, PostgreSQL, and Oracle.

NoSQL (Not Only SQL) databases:
- NoSQL databases are non-relational databases.
- Data is stored in various formats like key-value pairs, document-oriented, column-oriented, or graph-based.
- They are designed for scalability and flexibility, often sacrificing ACID (Atomicity, Consistency, Isolation, Durability) properties for performance.
- Examples include MongoDB, Cassandra, and Redis.

Answer 2.
DDL stands for Data Definition Language. It is a subset of SQL (Structured Query Language) used to define and manage the structure of the database.

1. CREATE: Used to create new database objects such as tables, indexes, views, etc. Example:
CREATE TABLE Employees (EmployeeID INT, LastName VARCHAR(255), FirstName VARCHAR(255));

2. DROP: Used to delete existing database objects.
Example:
DROP TABLE Employees;

3. ALTER: Used to modify the structure of an existing database object.
Example:
ALTER TABLE Employees
ADD COLUMN Age INT;

4. TRUNCATE: Used to remove all records from a table, but keep the table structure intact. Example:
TRUNCATE TABLE Employees;

Answer 3.
DML stands for Data Manipulation Language. It is a subset of SQL (Structured Query Language) used to manipulate the data within the database.

1. INSERT: Used to add new records into a table.
Example:
INSERT INTO Employees (EmployeeID, LastName, FirstName)
VALUES (1, 'Smith', 'John');

2. UPDATE: Used to modify existing records in a table.
Example:
UPDATE Employees
SET LastName = 'Doe'
WHERE EmployeeID = 1;

3. DELETE: Used to remove existing records from a table.
Example:
DELETE FROM Employees
WHERE EmployeeID = 1;

Answer 4.
DQL stands for Data Query Language. It is a subset of SQL (Structured Query Language) used to retrieve data from the database.

SELECT: Used to retrieve data from one or more tables in the database.
Example:
SELECT FirstName, LastName
FROM Employees
WHERE Department = 'IT';

Answer 5.
Primary Key:
- A primary key is a column or set of columns that uniquely identifies each record in a table.
- It ensures data integrity by enforcing uniqueness and providing a fast lookup mechanism.

- Only one primary key can exist per table.
- Example:
CREATE TABLE Students (StudentID INT PRIMARY KEY, Name VARCHAR(50), Age INT);

Foreign Key:
- A foreign key is a column or set of columns that establishes a relationship between two tables.
- It references the primary key of another table, linking the rows of the two tables together.
- It enforces referential integrity, ensuring that the values in the foreign key column match values in the primary key column of the referenced table.
- Example:
CREATE TABLE Orders (OrderID INT PRIMARY KEY, ProductID INT, FOREIGN KEY (ProductID) REFERENCES Products(ProductID));

In this example, the "ProductID" column in the "Orders" table is a foreign key that references the "ProductID" column in the "Products" table. This establishes a relationship between the two tables, ensuring that orders can only reference existing products.

Answer 6.

Python code to connect MySQL to python is:

```
import mysql.connector
mydb=mysql.connector.connect(
host="local host",
user="abc",
password="password"
)
mycursor=mydb.cursor()
mycursor.execute("CREATE DATABASE if not exists database_name")
mydb.close()
```

cursor() method -
i) It creates a cursor object that allows you to execute SQL queries and fetch data from the database.
ii) It acts as a handle for the database operations.
iii) It's typically used to traverse the result set of a query.

execute() method -
i) It is used to execute an SQL query.
ii) It takes an SQL query as its argument and executes it.
iii) It's often used in conjunction with the cursor object.

Answer 7.

In SQL, the order of execution of clauses in a query generally follows this sequence:
1. FROM: Specifies the tables from which to retrieve data.
2. WHERE: Filters rows based on specified conditions.
3. GROUP BY: Groups rows that have the same values into summary rows.
4. HAVING: Filters groups based on specified conditions.
5. SELECT: Selects the columns to include in the result set.
6. ORDER BY: Sorts the result set based on specified columns.
7. LIMIT/OFFSET: Limits the number of rows returned or skips a specified number of rows.