

SQL learning plan

SQL Timestamps:
Start - 00:00
Introduction to SQL - 01:43
01:48 What is database?
03:45 Types of databases
08:03 Installation of MySQL
13:03 Database Structure
14:21 What is table?
16:29 Creating our first database
22:41 Creating our first table
29:49 SQL Datatypes
37:11 Types of SQL Commands
40:09 Database related queries
43:43 Table related queries
46:11 SELECT Command
47:22 INSERT Command
51:19 Practice Questions
56:25 Keys
01:01:26 Constraints
01:13:04 SELECT Command in Detail
01:15:10 Where Clause
01:21:19 Operators
01:25:21 Limit Clause
01:26:48 Order By Clause
01:29:12 Aggregate Functions
01:32:33 Group By Clause
01:37:51 Practice Questions
01:43:35 Having Clause
01:47:18 General Order of Commands
01:50:31 UPDATE Command
01:56:40 DELETE Command
01:58:41 Revisiting Foreign Keys
02:06:35 Cascading Foreign Keys
02:12:30 ALTER Command
02:15:06 CHANGE and MODIFY Commands
02:20:33 TRUNCATE Command
02:24:00 JOINS in SQL
02:51:23 UNION in SQL
02:53:54 SQL Sub Queries
03:11:26 MySQL Views this is my selabus, given question
first 51 minits questions SQL Timestamps:

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51:19 Practice Questions , i want to practice , now i starting sql, i learn like that first i do some topic and then give homework , it help me good understanding ,

Great! 🎉

Since you want to **learn SQL topic-wise** and then **practice with homework**, I will create a **perfect step-by-step learning path** based on your syllabus **till 51 minutes**.

I will follow this pattern for each topic:

 **Topic Explanation (Short & Simple)**

 **Practice Questions**

 **Homework (Real-life problems)**

Your SQL Learning Plan (Till 51 Minutes)

We will cover topics:

- 1** Introduction to SQL
- 2** What is Database?
- 3** Types of Databases
- 4** Installation of MySQL (No practice needed)
- 5** Database Structure
- 6** What is Table?
- 7** Creating Database

- 8 Creating Table
 - 9 SQL Datatypes
 - 10 Types of SQL Commands
 - 1 1 Database Related Queries
 - 1 2 Table Related Queries
 - 1 3 SELECT Command
 - 1 4 INSERT Command
 - 1 5 Practice Questions (51:19)
-

DAY 1 — Let's Start!

1. What is SQL?

SQL = Structured Query Language

Used to store, retrieve, update and delete data in databases.

2. What is a Database?

A collection of data stored in an organised way.

Example:

- Facebook stores users, posts, comments
 - Banks store customers, accounts, transactions
-

Practice Questions (Basic Theory)

1. What is SQL?
 2. What is a database?
 3. Give 3 examples of databases used in real world.
 4. Why do we need databases instead of Excel?
-

Homework

Write down any **5 applications** you use daily (Instagram, YouTube) and write what kind of data they store in their database.

🔥 3. Types of Databases

👉 Relational Databases (RDBMS)

- Data stored in tables

Examples: MySQL, PostgreSQL, Oracle, SQL Server

👉 Non-Relational Databases (NoSQL)

- Data stored in JSON, key-value, documents

Examples: MongoDB, Redis, Cassandra

🎯 Practice Questions

1. What is RDBMS?
 2. What is NoSQL?
 3. Give differences between SQL and NoSQL.
-

📝 Homework

Write one real-life example where you think SQL is used and one where NoSQL is used.

🔥 4. Database Structure

Database → Tables → Rows → Columns

Example:

| id | name | age |
|----|------|-----|
| 1 | Ram | 23 |

🎯 Practice Questions

1. What is a table?
 2. What is a row & column?
 3. What is a field?
-



Homework

Draw a simple table structure on your notebook:

Students(id, name, age, course)

Fill 3 sample rows manually.



5. Creating Database

Command:

```
sql
```

```
CREATE DATABASE school;
```

See databases:

```
sql
```

```
SHOW DATABASES;
```

Use a database:

```
sql
```

```
USE school;
```

🎯 Practice Questions

1. Write SQL query to create a database called `company`.
 2. Write SQL query to delete a database `testdb`.
-



Homework

Create a database named "practice_db" in your MySQL.



6. Creating Table

sql

```
CREATE TABLE students (
    id INT,
    name VARCHAR(50),
    age INT
);
```



Practice Questions

1. Write SQL query to create table `employees (id, name, salary)`
 2. How to view all tables?
 3. How to delete a table?
-



Homework

Inside `practice_db`, create a table:

bash

```
products (id, name, price, category)
```



7. SQL Datatypes

Most used types:

- `INT` → numbers
- `FLOAT/DOUBLE` → decimals
- `VARCHAR(n)` → text
- `DATE` → dates

- BOOLEAN → true/false
 - TEXT → long messages
-

Practice Questions

1. Which datatype will you use for email?
 2. Which datatype for product price?
 3. Which datatype for date of birth?
-

Homework

Write datatypes for:

- student_roll
 - student_name
 - student_marks
 - student_email
 - joining_date
-
-

8. Types of SQL Commands

DDL → Data Definition Language

CREATE, DROP, ALTER

DML → Data Manipulation Language

INSERT, UPDATE, DELETE

DQL → Data Query Language

SELECT

DCL → GRANT, REVOKE

TCL → COMMIT, ROLLBACK

Practice Questions

1. DDL full form?
 2. Write 3 DDL commands.
 3. Write example of DML command.
-



Homework

Write one real-life scenario where UPDATE is used.



9. SELECT Command

Used to fetch data.

sql

```
SELECT * FROM students;
```

sql

```
SELECT name, age FROM students;
```



Practice Questions

1. Write query to select name from employees table.
 2. Write query to select all columns.
 3. Write query to select only id & name.
-



Homework

Create table `books(id, title, author, price)` and insert 3 rows.

Then write:

- Select all books
 - Select only title & price
-
-

🔥 10. INSERT Command

```
sql
```

```
INSERT INTO students (id, name, age)  
VALUES (1, 'Ram', 23);
```

Multiple rows:

```
sql
```

```
INSERT INTO students VALUES  
(2, 'Sita', 21),  
(3, 'Mohan', 25);
```

🎯 Practice Questions

1. Insert 3 rows into employees table.
2. Insert a row without age (NULL).



Homework

Insert 5 products into your products table.



DONE — You completed syllabus till 51 minutes 🎉

If you want, I can give you:

Mini Test

More Practice Sets

Daily homework

MCQ Questions

SQL Projects

👉 Would you like the next topics (Keys, Constraints, SELECT in detail etc.)?

56:25 Keys
01:01:26 Constraints
01:13:04 SELECT Command in Detail
01:15:10 Where Clause
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Perfect Supriya! ⭐

You are learning step-by-step — this is **the best way** to master SQL.

Now we will cover the next part of your syllabus **EXACTLY in the same format:**

✓ TODAY'S SQL LESSON

From timestamp 56:25 → 01:37:51

We will cover:

1. Keys
2. Constraints
3. SELECT Command (in detail)
4. WHERE Clause
5. Operators
6. LIMIT Clause
7. ORDER BY Clause
8. Aggregate Functions
9. GROUP BY Clause
10. Practice Questions

After each topic →

→ Short Explanation

 Practice Questions Homework

1. KEYS (56:25)

Primary Key

- Uniquely identifies each row
- Cannot be NULL

```
sql
```

```
id INT PRIMARY KEY
```

Foreign Key

- Connects two tables

```
sql
```

```
FOREIGN KEY (dept_id) REFERENCES departments(id)
```

Unique Key

- Cannot have duplicate values
- Can have one NULL

Composite Key

- Multiple columns used together to make a key

 Practice Questions

1. What is a primary key?
2. Can a primary key be NULL?
3. What is a foreign key?
4. Write SQL to create a table with a primary key.



Homework

Create a table:

```
SCSS
```

```
departments(id, name)
```

- id → Primary Key

Then create:

```
SCSS
```

```
employees(id, name, dept_id)
```

- dept_id → Foreign Key referencing departments(id)

🔥 2. CONSTRAINTS (01:01:26)

Used to apply rules on columns.

Common Constraints:

- PRIMARY KEY
- FOREIGN KEY
- UNIQUE
- NOT NULL
- DEFAULT
- CHECK (conditions)

Example:

```
sql
```

```
CREATE TABLE students (
    id INT PRIMARY KEY,
    name VARCHAR(50) NOT NULL,
    age INT CHECK (age >= 18),
    city VARCHAR(50) DEFAULT 'Kolkata'
);
```

🎯 Practice Questions

1. What is NOT NULL?
2. What is UNIQUE constraint?
3. Write CHECK constraint for "marks > 40".

 **Homework**

Create table:

bash

```
users(id, email, age, city)
```

Conditions:

- id → primary key
 - email → unique
 - age → cannot be less than 10
 - city → default "Kolkata"
-
-



3. SELECT Command in Detail (01:13:04)

Most common:

sql

```
SELECT * FROM table;  
SELECT column1, column2 FROM table;
```

Using Expressions:

sql

```
SELECT name, salary * 12 AS annual_salary FROM employees;
```

Using DISTINCT:

sql

```
SELECT DISTINCT city FROM students;
```

 **Practice Questions**

1. How to select all data?
2. Select only name & salary.
3. Select unique cities.

 **Homework**

Create table books(id, title, author, price).

Insert 5 rows.

Write:

- Select title & author
 - Select price with name AS book_price
-
-

 **4. WHERE Clause (01:15:10)**

Used to filter data.

sql

```
SELECT * FROM employees WHERE salary > 30000;
```

 **Practice Questions**

1. Select students whose age > 20
 2. Select products whose price < 500
 3. Select employees from "HR" department
-

 **Homework**

From books table:

- Select books where price > 300
-
-

 **5. Operators (01:21:19)**

Comparison:

= , > , < , >= , <= , !=

Logical:

AND, OR, NOT

BETWEEN:

sql

```
price BETWEEN 100 AND 500
```

IN:

sql

```
city IN ('Kolkata', 'Delhi')
```

LIKE:

sql

```
name LIKE 'A%'
```

🎯 Practice Questions

1. Find students with age between 18 and 25
2. Products with category IN ('mobile', 'laptop')
3. Names starting with "S"

📝 Homework

From employees table:

- Select employees whose name ends with "a"
- Select where salary is between 20k and 50k

🔥 6. LIMIT Clause (01:25:21)

Used to limit rows.

sql

```
SELECT * FROM students LIMIT 5;
```

🎯 Practice Questions

1. Show only first 3 employees
2. Show first 1 product

📝 Homework

Show only the cheapest 2 books.

(Hint: order by price asc limit 2)

🔥 7. ORDER BY Clause (01:26:48)

Used to sort data.

```
sql|
```

```
SELECT * FROM students ORDER BY age ASC;  
SELECT * FROM students ORDER BY age DESC;
```

🎯 Practice Questions

1. Order products by price (low → high)
2. Order employees by name (descending)

📝 Homework

Order books by price (high → low)

🔥 8. Aggregate Functions (01:29:12)

- COUNT()

- MAX()
- MIN()
- AVG()
- SUM()

Example:

```
sql

SELECT COUNT(*) FROM students;
SELECT AVG(price) FROM products;
```

🎯 Practice Questions

1. Find total number of employees
 2. Find maximum salary
 3. Find average product price
-

📝 Homework

From books table:

- Find total books
 - Find highest price
-
-

🔥 9. GROUP BY Clause (01:32:33)

Used with aggregates.

Example:

```
sql

SELECT department, COUNT(*)
FROM employees
GROUP BY department;
```

🎯 Practice Questions

1. Count students in each city
 2. Count products in each category
-

Homework

From books table:

Group books by author → count number of books per author.

DONE! You completed lessons till the Practice Questions (01:37:51)

Now tell me:

- 👉 Would you like a full test for all topics covered today?
- 👉 Or should we continue to the next topics (HAVING, UPDATE, DELETE, ALTER...)?

given practice question , first given data, i want past, then i practice query bcz it helpful for me

Perfect Supriya!

You want **practice questions + sample data** so you can copy-paste the data into MySQL and practice queries.

From now, I will give data first → then questions → then homework.

Below is the **complete dataset** for all topics till 01:37:51.

PRACTICE DATA (Copy-Paste Friendly)

1. Create database

sql

```
CREATE DATABASE practice_sql;  
USE practice_sql;
```