



Database: A database is an organized collection of data stored & accessed electronically

→ used for efficient data retrieval & manipulation

→ MySQL is RDBMS (Relational Database Management System), the data is stored in tabular format & organized data & allows retrieval & manipulation using queries

Reserved Words eg: CREATE, INSERT, SELECT)

Agenda:

- * create database
- * Create tables without constraints
- * Insert data into tables
- * Drop tables & databases
- * Exercises

Command (DDL Commands)
data definition language

① Creating a Database

`> CREATE DATABASE database_name;`

eg: `CREATE DATABASE librarydb;`

② Viewing All Databases

`> SHOW DATABASES`

③ Using a Database (connect)

\$ USE database_name

eg: USE librarydb

Creating Tables

```
$ CREATE TABLE table-name (  
    column_name1 data_type,  
    column_name2 data_type,  
    ...  
    ...  
);
```

→

↓	↓	↓	↓	↓
id	title	author	genre	Year
1	HP			
2	Twilight			
3	Harry Potter			

```
CREATE TABLE books(  
    bookID INT,  
    title VARCHAR(25),  
    author VARCHAR(25),  
    genre VARCHAR(25),  
    publicationYear INT  
);
```

Viewing Table

→ \$ SHOW tables;

Inserting Data into tables

```
$ INSERT INTO table-name (col1, col2 ... )  
VALUES (value1, value2 ... )
```

```
INSERT INTO books(bookID,title,author,genre,publicationYear)  
VALUES (1,'Twilight','Author1','Romance',2020),  
(2,'Harry Potter','Author 2','Sci-Fi',2010);
```

Viewing DATA

```
$ SELECT * FROM books
```

```
$ SELECT bookID, title, author FROM books
```

Notes:

→ Windows : Case-insensitive

Unix : case-sensitive

Books, books, Books ⇒ books

Books → books, x

} Database

→ database names appear in lowercase regardless of how they written

Dropping Tables & Databases

1) Drop a table

\$ DROP TABLE table_name;

2) Dropping database

\$ DROP DATABASE database_name;

Datatypes

① Numeric Data types

Integer

INT, BIGINT

$-\infty$ to ∞

1 byte = 8 bits

4 bytes

8 bytes

$-\underline{2^{32}}$ to $+2^{32}$

$4 \times 8 = 32$

$8 \times 8 = 64$

Float

FLOAT, DOUBLE

\uparrow
10.258644

\uparrow
10.3584218567810

② String Data Type

Char Type

\rightarrow CHAR(size) eg: Currency type

CHAR(3) \rightarrow 'USD', 'INR'

\rightarrow VARCHAR(size) : Variable length of string

eg: name \rightarrow VARCHAR(50) \rightarrow 'SA' 47 } free-up
 \rightarrow 'VAMITHI' 44 }

Text types

TEXT, LONGTEXT

\downarrow

65K

\downarrow

4GB

③ DATE & Time data types

DATE (YYYY-MM-DD)
2025-04-14

DATETIME (YYYY-MM-DD HH:MM:SS)
2025-04-14 23:37:25

TIME (HH:MM:SS)
23:37:25

YEAR (YYYY)

TIMESTAMP stores date & time automatically