

Labsheet - 02

To Create a table named Students with the following Structure.

- Student_id (integer)
- First-name (Varchar 50)
- Last-name (Varchar 50)
- email (Varchar 100)
- phone (Varchar 15)
- date-of-birth (date)
- enrollment-date (timestamp)

```
CREATE TABLE Students (
    Student-id INT,
    first-name VARCHAR(50),
    last-name VARCHAR(50),
    email VARCHAR(100),
    phone VARCHAR(15),
    date-of-birth DATE,
    enrollment-date TIMESTAMP
);
```

Output

Query OK, table 'Students' Created

Successfully

2. Using the Students table from exercise 1,
add the following columns.

1. major (VARCHAR 100)
2. gpa (decimal 3,2)
3. graduation-year (integer)
4. address (text)

ALTER TABLE Students ADD COLUMN major
VARCHAR (100);

ALTER TABLE Students ADD COLUMN gpa -
DECIMAL (3,2);

ALTER TABLE Students ADD COLUMN
graduation-year INT;

ALTER TABLE Students ADD COLUMN address
TEXT;

Output

Table 'Students' modified. 4 Columns added

3. Modify the following in the Students table:

1. Phone Column → allow 20 characters
2. Email Column → allow 150 characters
3. First - Name column → Varchar 75
4. major column → Varchar 120

ALTER TABLE Students MODIFY phone
VARCHAR(20);

ALTER TABLE Students MODIFY email
VARCHAR(150);

ALTER TABLE Students MODIFY first - name
VARCHAR(75);

ALTER TABLE Students MODIFY major
VARCHAR(120);

Output :-

Table 'Students' modified
Column properties updated

4. Create the following three tables :-

Table 1: books

- book_id (integer)
- title (varchar 200)
- author (varchar 150)
- publication_year (integer)
- price (decimal 8, 2)

Table 2 employees

- emp_id (integer)
- emp_name (varchar 100)
- ~~emp~~ department (varchar 80)
- Salary (decimal 10, 2)
- hire_date (date)

Table 3 Products

- product_code (varchar 20)
- product_name (varchar 50)
- category (varchar 50)
- stock_quantity (integer)

CREATE TABLE books (
book_id INT,
title VARCHAR(200),
author VARCHAR(150),
Publication-year INT,
Price DECIMAL(8, 2))

```
CREATE TABLE employees (
    emp-id INT,
    emp-name VARCHAR(100),
    department VARCHAR(80),
    Salary DECIMAL(10,2)
    hire-date Date
);
```

```
CREATE TABLE products (
    Product-code VARCHAR(20),
    Product-name VARCHAR(150),
    Category VARCHAR(50),
    Stock-quantity INT
);
```

Output

- Table 'books' created
- Table 'employees' created
- Table 'products' created

5. Using tables from previous exercises: -

1. Drop the address column from Students table.
2. Drop the publication-year column from books table.
3. Drop the Stock- quantity column from products table.
4. Add back a new column Status (Varchar20) to the products table.

ALTER TABLE Students DROP COLUMN address;

ALTER TABLE books DROP COLUMN Publication-year;

ALTER TABLE products DROP COLUMN Stock- quantity;

ALTER TABLE products ADD COLUMN Status VARCHAR(20);

Output: -

Column 'address' dropped from Students

Column 'publication-year' dropped from books

Column 'Stock- quantity' dropped from products

Column 'Status' added to Products .

6. Create a table named temp-data
with Columns: id (integer), name (varchar),
Value (decimal 10, 2)

Rename table from temp-data → measurement
- data

Rename column id → measurement - id

Rename column name → measurement - name

Rename column value → measurement - value.

Create TABLE temp-data (
id INT,
name VARCHAR(50),
value DECIMAL(10,2)

);

ALTER TABLE temp-data RENAME TO
measurement - data;

ALTER TABLE measurement - data RENAME
COLUMN id TO measurement - id;

ALTER TABLE measurement - data RENAME
COLUMN name TO measurement - name;

ALTER TABLE measurement - data RENAME
COLUMN value TO measurement - value;

Output

Table 'temp-data'

Table renamed to 'measurement - data'.

Column renamed successfully.

1. Create table Sample - records
(record-id, description, created-date)
2. Insert 5 sample records
3. View all records
4. Use TRUNCATE to remove all data.
5. Check table structure still exists
6. Insert 2 new records
7. Use DROP to Completely remove the table
8. Try to query the table.

```
CREATE TABLE Sample-records(  
    record-id INT,  
    description VARCHAR(100),  
    Created-date DATE
```

);

```
INSERT INTO Sample-records VALUES  
(1, 'First record', '2025-01-01'),  
(2, 'Second record', '2025-01-02'),  
(3, 'Third record', '2025-01-03'),  
(4, 'Fourth record', '2025-01-04'),
```

```
SELECT * FROM Sample-records;
```

```
TRUNCATE TABLE Sample-records;
```

```
SELECT * FROM Sample-records; -- no rows,  
Structure exists
```

```
INSERT INTO Sample-records VALUES(6,  
'New Record', '2025-02-01');
```

```
INSERT INTO Sample-records VALUES(7,  
'Another Record', '2025-02-02');
```

DROP TABLE Sample - records;

SELECT * FROM Sample - records;

Output :-

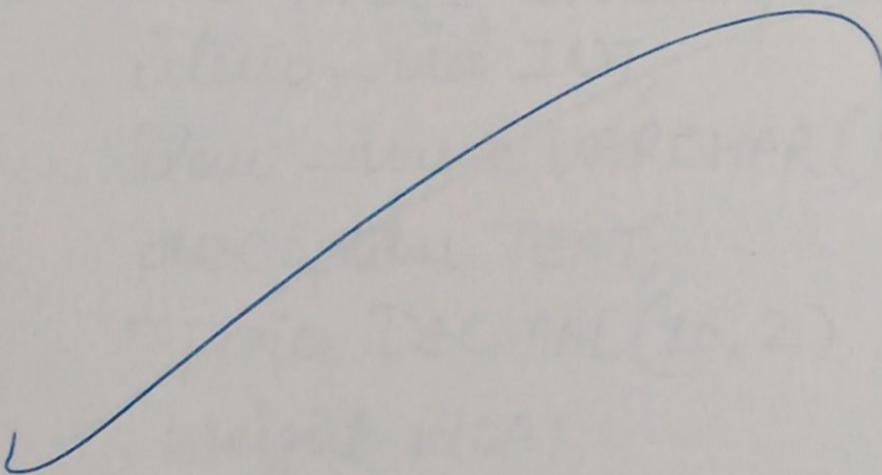
5 rows inserted

Table truncated (0 rows remain, Structure intact)

2 rows inserted

Table 'Sample - records' dropped.

error:- Table 'Sample - records' does not exist.



8. Create a table inventory with columns:-

- item - id (integer)
- item - name (varchar 100)
- description (text)
- price (decimal 10, 2)
- weight (float)
- is - available (boolean)
- last - updated (timestamp)
- expiry - date (date)
- category - code (char 5)
- notes (longtext)

CREATE TABLE inventory (

item - id INT,

item - name VARCHAR(100),

description TEXT,

Price DECIMAL(10, 2),

Weight FLOAT,

is - available BOOLEAN,

last - updated TIMESTAMP,

expiry - date DATE,

Category - code CHAR(5)

Notes LONG TEXT

);

Output

Table 'inventory' created successfully with
all data types.

9. Create a table customer - info and then perform modifications.

Initial Table:-

```
CREATE TABLE Customer - info (
    id INT,
    name VARCHAR(50),
    phone VARCHAR(10),
);
```

Modification:-

1. Add Column: email (VARCHAR 100), city (VARCHAR 60), age (integer)

2. Modify name → VARCHAR 100

3. Modify phone → VARCHAR 15

4. Add Column registration - date (date)

5. Drop age Column

6. Add Column customer - type (VARCHAR 30)

7. Rename id → customer - id

```
ALTER TABLE Customer - info ADD COLUMN email
VARCHAR(100);
```

```
ALTER TABLE Customer - info ADD COLUMN city
VARCHAR(60);
```

```
ALTER TABLE Customer - info ADD COLUMN age
INT;
```

```
ALTER TABLE Customer - info MODIFY name
VARCHAR(100);
```

ALTER TABLE Customer - info MODIFY phone
VARCHAR(15);

ALTER TABLE Customer - info MODIFY phone
VARCHAR(15);

ALTER TABLE Customer - info ADD COLUMN
registration - date DATE;

ALTER TABLE Customer - info DROP COLUMN age;

ALTER TABLE Customer - info ADD COLUMN
Customer - type VARCHAR(30);

ALTER TABLE customer - info RENAME COLUMN
id To Customer - id ;

Output :-

Table 'customer - info' modified with all changes
applied .

10. Design and implement a Library management system
with tables:-

```
CREATE TABLE library-members(
    member-id INT,
    first-name VARCHAR(60),
    last-name VARCHAR(60),
    email VARCHAR(120),
    phone VARCHAR(15),
    join-date DATE,
    membership-type VARCHAR(30))
```

```
CREATE TABLE book-Catalog (
    Catalog-id INT,
    book-title VARCHAR(200),
    author-name VARCHAR(150),
    isbn VARCHAR(15),
    genre VARCHAR(50),
    publication-date DATE))
```

```
CREATE TABLE book-transactions (
    transaction-id INT,
    member-id INT,
    Catalog-id INT,
    issue-date DATE,
    return-date DATE,
    Status VARCHAR(20))
```

ALTER TABLE Book - transactions ADD Column
late-fee DECIMAL (6,2);

ALTER TABLE Book - catalog MODIFY isbn VARCHAR(20);

ALTER TABLE Book - Catalog RENAME COLUMN
Catalog- id To Book - id ;

ALTER TABLE Book - Catalog DROP COLUMN genre;

ALTER TABLE Book - Catalog ADD COLUMN publisher
VARCHAR (100);

CREATE TABLE publishers (

Publisher - id INT,

Publisher - name VARCHAR (100),

Country VARCHAR (50)

);

~~TRUNCATE TABLE book - transactions;~~

~~DROP TABLE publishers;~~

~~8/10/15~~