

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA

SURATHKAL, MANGALORE - 575 025

Course Code – CS254

Course Name – Database Systems Lab

Lab - 01

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Submitted To

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**1. Write SQL statements for:**

Create a table flights with the following information:

FLIGHT(flno, fromplace, toplace, distance, departs, arrives)

**a.** **Inserting data into the flight with five entries.**

USE one\_finfo;

CREATE TABLE flight (

    flno INT(5),

    fromplace VARCHAR(50),

    toplace VARCHAR(50),

    distamce INT(5),

    departs DATETIME,

    arrives DATETIME);

INSERT INTO flight

     VALUES (444, 'Dhaka', 'Kolkata', 1000,

     '2022:01:06 00:05:01', '2022:01:06 00:06:00'),

     (424, 'Kolkata', 'Bengalore', 2500,

     '2022:01:06 00:10:01', '2022:01:07 00:00:05'),

     (104, 'Bengalore', 'Mangalore', 500,

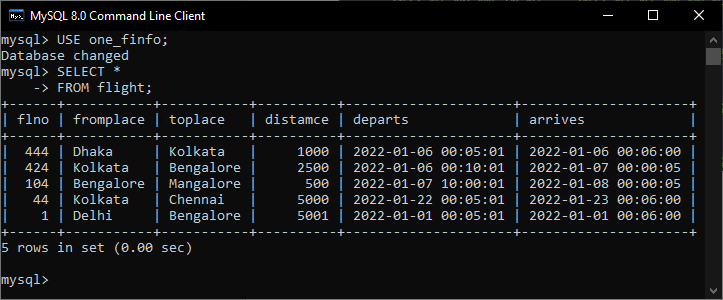
     '2022:01:07 10:00:01', '2022:01:08 00:00:05'),

     (044, 'Kolkata', 'Chennai', 5000,

     '2022:01:22 00:05:01', '2022:01:23 00:06:00'),

     (001, 'Delhi', 'Bengalore', 5001,

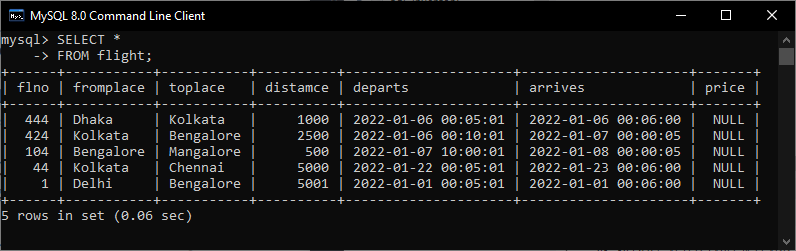
     '2022:01:01 00:05:01', '2022:01:01 00:06:00');



**b. Altering table by adding new column price.**

ALTER TABLE flight

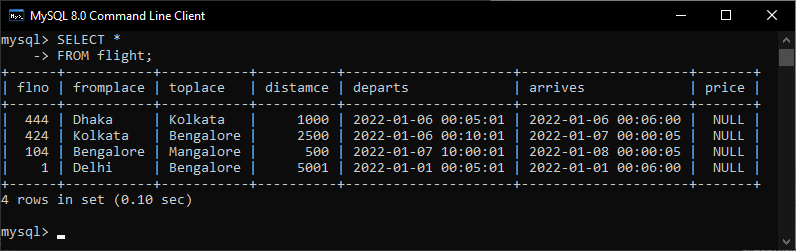
    ADD price INT(5);



**c. Deleting a row from the table.**

DELETE FROM flight

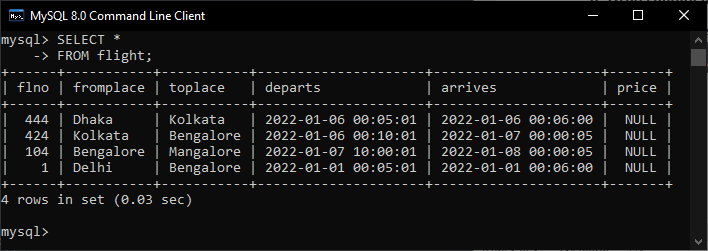
    WHERE flno = 44



**d. Drop column distance.**

ALTER TABLE flight

    DROP COLUMN distamce;



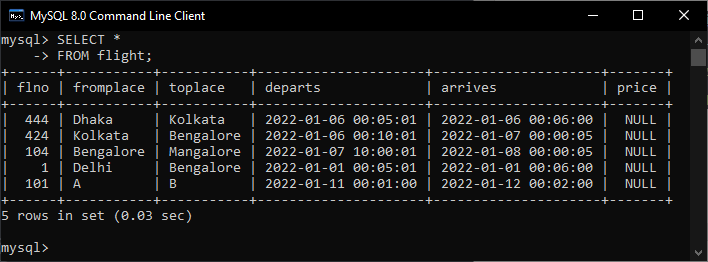
**e. Enter any one row with a price value accepting the NULL value then update it to a particular price.**

INSERT INTO flight(flno, fromplace, toplace,

    departs, arrives)

VALUES (101, 'A', 'B',

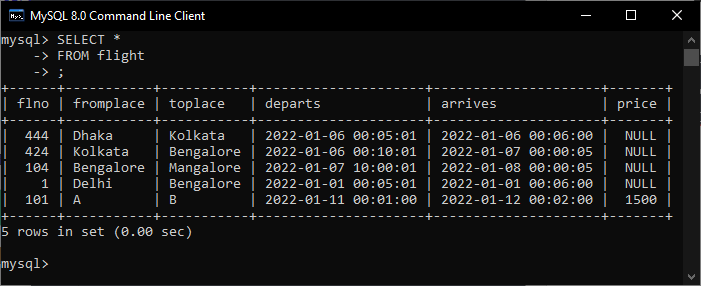
    '2022:01:11 00:01:00', '2022:01:12 00:02:00');



UPDATE flight

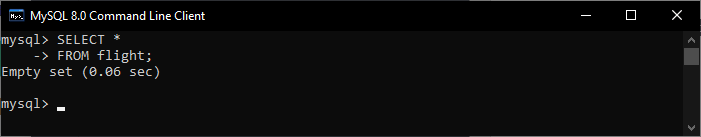
SET price = 1500

WHERE flno = 101



**f. Delete all the data from the table.**

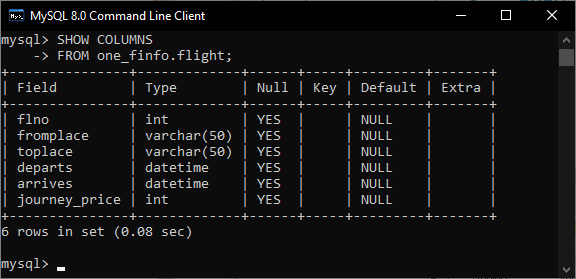
DELETE FROM flight;



**g. Rename a column price to journey\_price.**

ALTER TABLE flight

RENAME COLUMN price TO journey\_price;

****

**2. Consider the following schema for a Library Database.**

BOOK (Book\_id, Title, Publisher\_name, Pub\_year)

BOOK\_AUTHORS (Book\_id, Author\_name)

PUBLISHER (Book\_id, Name, Address, Phone)

CREATE DATABASE IF NOT EXISTS one\_library;

USE one\_library;

CREATE TABLE book (

    book\_id INT NOT NULL ,

    title VARCHAR(50),

    publisher\_name VARCHAR(50),

    pub\_year DATE,

    PRIMARY KEY (book\_id));

CREATE TABLE book\_authors (

    book\_id INT,

    author\_name VARCHAR(50),

    FOREIGN KEY (book\_id) REFERENCES book(book\_id));

CREATE TABLE publisher (

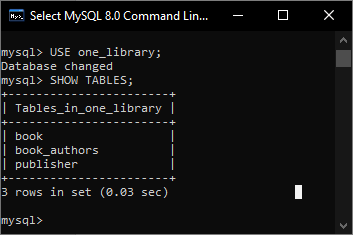
    book\_id INT,

    name  VARCHAR(50),

    address VARCHAR(100),

    phone INT,

    FOREIGN KEY (book\_id) REFERENCES book(book\_id));



**a. Enter at least five tuples for the given relation.**

INSERT INTO book

    VALUES (100, 'Book One', 'Publisher one', '2012-01-01'),

    (101, 'Book Two', 'Publisher Two', '2015-01-01'),

    (102, 'Book Three', 'Publisher Three', '2009-01-01'),

    (103, 'Book Four', 'Publisher Four', '2011-01-01'),

    (104, 'Book Five', 'Publisher Five', '2010-01-01');

INSERT INTO book\_authors

    VALUES (101, 'Author A'),

    (102, 'Author B'),

    (103, 'Author C'),

    (104, 'Author D'),

    (100, 'Author E');

INSERT INTO publisher

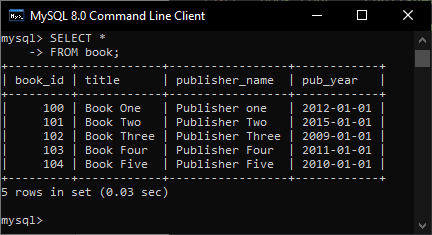
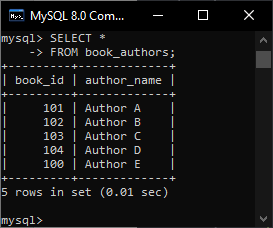
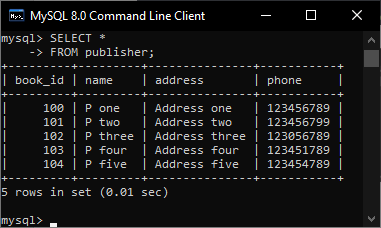
    VALUES (100, 'P one', 'Address one', 123456789),

        (101, 'P two', 'Address two', 123456799),

        (102, 'P three', 'Address three', 123056789),

        (103, 'P four', 'Address four', 123451789),

        (104, 'P five', 'Address five', 123454789);

**b. Retrieve details of all books in the library – id, title, name of the publisher, author, etc.**

USE one\_library;

SELECT \*

FROM book

JOIN book\_authors

    USING (book\_id)

JOIN publisher

    USING (book\_id);



**c. Get the books written by a particular author.**

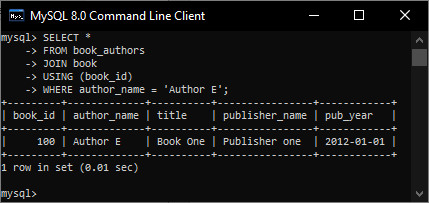
SELECT \*

FROM book\_authors

JOIN book

    USING (book\_id)

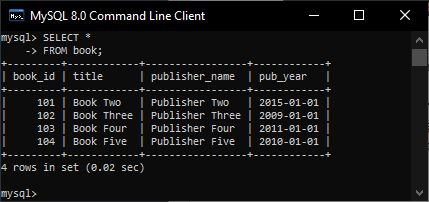
WHERE author\_name = 'Author E';



**d. Delete a book from the book table.**

DELETE FROM book

WHERE book\_id = 100

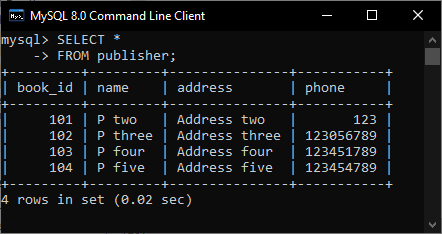
****

**e. Update the phone number of a publisher.**

UPDATE publisher

SET phone = 123

WHERE book\_id = 101

****

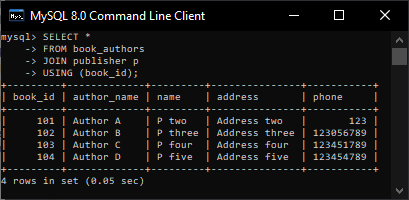
**f. Through book\_id retrieve the details of author name and publisher details.**

SELECT \*

FROM book\_authors

JOIN publisher p

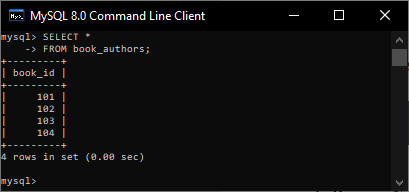
    USING (book\_id)

****

**g. Drop author\_name column from Book\_authors.**

ALTER TABLE book\_authors

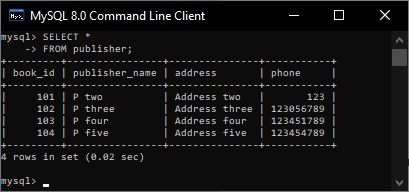
DROP COLUMN author\_name

****

**h. Rename Name (from publisher) to Publisher\_name.**

ALTER TABLE publisher

RENAME COLUMN name TO publisher\_name

****

**3. Consider the following schema for OrderDatabase:**

**SALESMAN (Salesman\_id, Name, City, Salary)**

**CUSTOMER (Customer\_id, cust\_Name, City, Salesman\_id)**

**ORDERS (Ord\_No, Purchase\_Amt, Ord\_Date, Customer\_id, Salesman\_id)**

**Write SQL queries to –**

CREATE DATABASE one\_orderdatabase;

USE one\_orderdatabase;

CREATE TABLE salesman (

    salesman\_id INT NOT NULL,

    name VARCHAR(50),

    city VARCHAR(100),

    salary INT,

    PRIMARY KEY (salesman\_id));

CREATE TABLE customer (

    customer\_id INT NOT NULL,

    cust\_name VARCHAR(50),

    city VARCHAR(50),

    salesman\_id INT NOT NULL,

    PRIMARY KEY (customer\_id),

    FOREIGN KEY (salesman\_id) REFERENCES

    salesman(salesman\_id)

    ON DELETE CASCADE

    ON UPDATE CASCADE);

CREATE TABLE orders (

    ord\_no INT NOT NULL,

    purchase\_amt INT,

    ord\_date DATE,

    customer\_id INT NOT NULL,

    salesman\_id INT NOT NULL,

    PRIMARY KEY (ord\_no),

    FOREIGN KEY (customer\_id) REFERENCES

    customer(customer\_id)

    ON DELETE CASCADE

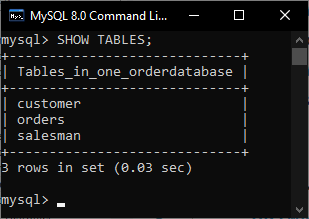
    ON UPDATE CASCADE,

    FOREIGN KEY (salesman\_id) REFERENCES

    salesman(salesman\_id)

    ON DELETE CASCADE

    ON UPDATE CASCADE);

****

**a. Insert 5-10 entries.**

INSERT INTO salesman

    VALUES (101, 'Salesman A', 'City 1A', 1000),

    (102, 'Salesman B', 'City 1B', 1001),

    (103, 'Salesman C', 'City 1C', 1002),

    (104, 'Salesman D', 'City 1D', 1003),

    (105, 'Salesman E', 'City 1E', 1004);

INSERT INTO customer

    VALUES (201, 'Customer A', 'City 2A', 101),

    (202, 'Customer B', 'City 2B', 102),

    (203, 'Customer C', 'City 2C', 103),

    (204, 'Customer D', 'City 2D', 104),

    (205, 'Customer E', 'City 2E', 105);

INSERT INTO orders

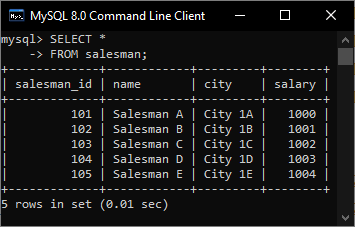
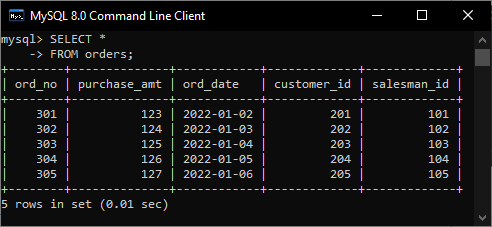
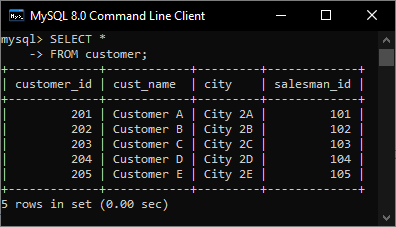
    VALUES (301, 123, '2022-01-02', 201, 101),

    (302, 124, '2022-01-03', 202, 102),

    (303, 125, '2022-01-04', 203, 103),

    (304, 126, '2022-01-05', 204, 104),

    (305, 127, '2022-01-06', 205, 105);

** **

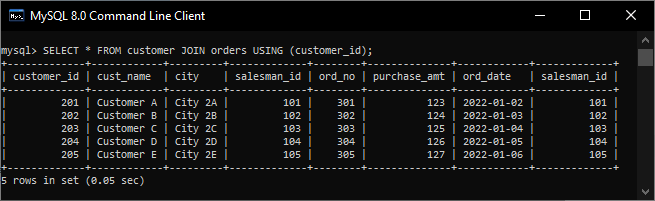
**b. Retrieve the details of all the customers and orders.**

SELECT \*

FROM customer

JOIN orders

    USING (customer\_id)

****

**c. Get the customers handled by a particular salesman.**

SELECT s.name,

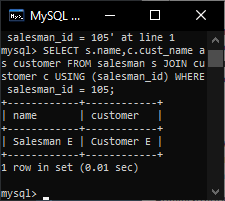
    c.cust\_name as customer

FROM salesman s

JOIN customer c

    USING (salesman\_id)

WHERE salesman\_id = 105

****

**d. Get the details of orders purchased by customers.**

SELECT c.cust\_name,

    o.purchase\_amt AS price,

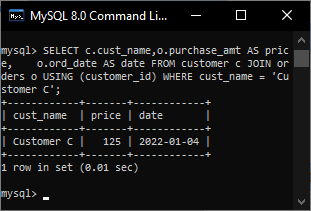
    o.ord\_date AS date

FROM customer c

JOIN orders o

    USING (customer\_id)

WHERE cust\_name = 'Customer C'

****

**e. Through salesman\_id retrieve the details of his sold orders.**

SELECT s.name AS saller,

       c.cust\_name AS customer,

       o.ord\_no, o.ord\_date,

       o.purchase\_amt

FROM salesman s

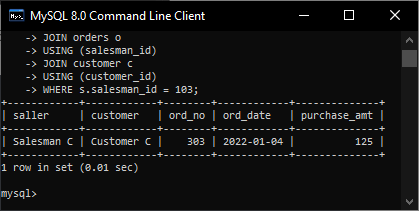
JOIN orders o

    USING (salesman\_id)

JOIN customer c

    USING (customer\_id)

WHERE s.salesman\_id = 103

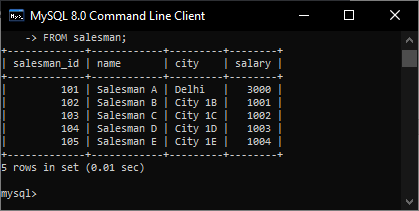
****

**f. One of the salesmen is getting a rise of 2000 and is getting relocated to Delhi. Update his data.**

UPDATE salesman

SET salary = salary + 2000, city = 'Delhi'

WHERE salesman\_id = 101

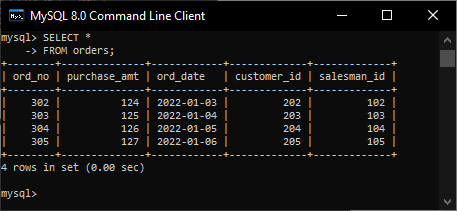
****

**g. Delete an order and its details as the customer placed an order and canceled it.**

DELETE

FROM orders

WHERE ord\_no = 301

****

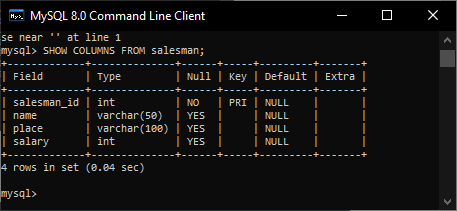
**h. Rename the City column to Place.**

ALTER TABLE customer

RENAME COLUMN city TO place;

ALTER TABLE salesman

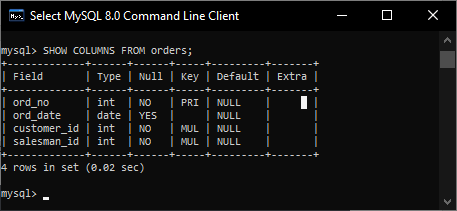
RENAME COLUMN city TO place;

****

**i. Drop purchase\_amt column from the table orders.**

ALTER TABLE orders

DROP COLUMN purchase\_amt

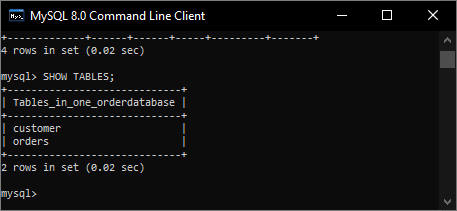
****

**j. Drop the table salesman.**

SET FOREIGN\_KEY\_CHECKS = 0;

DROP TABLE salesman;

SET FOREIGN\_KEY\_CHECKS = 1;

****

**4. Write SQL statements for the following.**

**Create a table sub with the following information: column and data types: name varchar(8), age number(5), mark1 number(4), mark2 number(4), mark3 number(4);**

CREATE DATABASE one\_uni;

USE one\_uni;

CREATE TABLE sub (

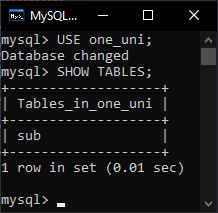
    name VARCHAR(8),

    age INT NOT NULL,

    mark1 INT,

    mark2 INT,

    mark3 INT);

****

**a. Enter at least five tuples for the given relation.**

INSERT INTO sub

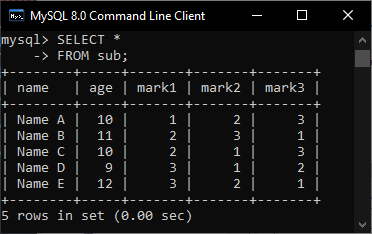
    VALUES ('Name A', 10, 1, 2, 3),

    ('Name B', 11, 2, 3, 1),

    ('Name C', 10, 2, 1, 3),

    ('Name D', 9, 3, 1, 2),

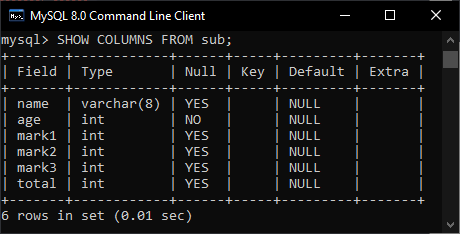
    ('Name E', 12, 3, 2, 1);

****

**b. Add one more column with the field name as total with data type as number(5).**

ALTER TABLE sub

ADD total INT;

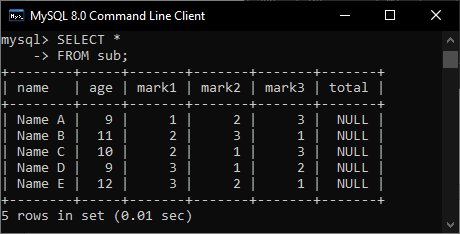
****

**c. Update the age of sub for a particular student.**

UPDATE sub

SET age = 9

WHERE name = 'Name A'

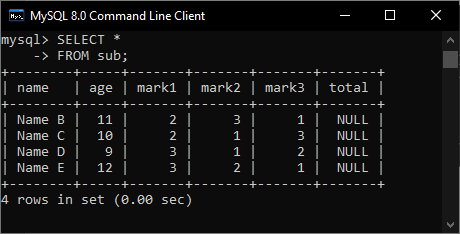
****

**d. Delete a row from the table.**

DELETE

FROM sub

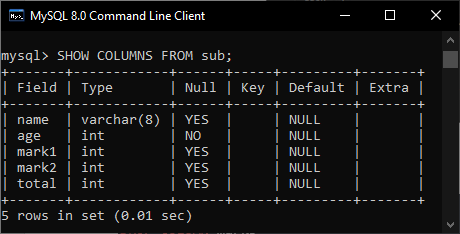
WHERE name = 'Name A'

****

**e. Drop column mark3.**

ALTER TABLE sub

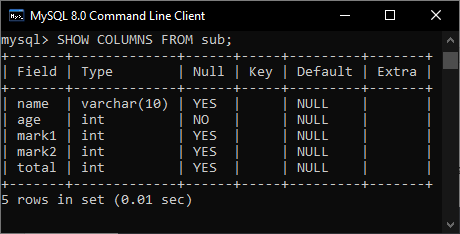
DROP COLUMN mark3

****

**f. Modify the table by changing the data type of name to varchar(10).**

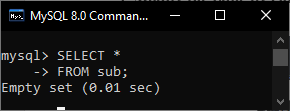
ALTER TABLE sub

MODIFY COLUMN name VARCHAR(10)

****

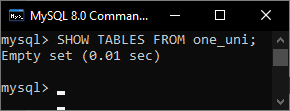
**g. Delete all the data from the sub table.**

DELETE FROM sub;

****

**h. Delete the table.**

DROP table sub

****