**create database dml;**

**use dml;**

**Exercise1:**

**Create a table named "products" with the following columns:**

product\_id (integer, primary key)

product\_name (varchar, max length 100)

category (varchar, max length 50)

price (decimal, precision 10, scale 2)

stock\_quantity (integer)

**Exercise2:**

**Insert a single product with specific values [**201, 'Smartphone', 'Electronics', 599.99, 100]**:**

**Exercise3:**

**Insert multiple products with specific values:**

(202, 'Power Drill', 'Hardware', 79.99, 50),

(203, 'Designer Jeans', 'Apparel', 89.99, 75),

(204, 'Bluetooth Speaker', 'Electronics', 39.99, 200)

**Exercise4:**

**Insert a product with a default stock quantity and specified values [** 205, 'Basic Accessory', 'Electronics', 4.99]**:**

**Exercise5:**

**Insert a product with values [**206, 'Advanced Widget', 'Electronics', 49.99, 150]**:**

**Exercise6:**

**Insert a product with a NULL price [**207, 'Mystery Gadget', 'Electronics']**:**

**Exercise7:**

**Insert a product with a specific price using a CASE statement [**209, 'Special Widget', 'Electronics', (when stock\_quantity >= 175, 19.99, else, 24.99 ]**:**

**Exercise8:**

**Insert a product using default values for price and stock quantity [**211, 'Basic Module', 'Miscellaneous']**:**

**Exercise9:**

**Insert a product with a random price using the RAND() function [**212, 'Random Gadget', 'Miscellaneous', ‘random value’, 2), 20]**:**

**Exercise10:**

**Insert a product with only essential columns (product\_id, product\_name) [**301, 'Basic Widget']**:**

**Exercise11:**

**Insert a product with name and price [**'Compact Gadget', 29.99]**:**

**Exercise12:**

**Insert a product with name and category [**'Casual Shoes', 'Footwear']**:**

**Exercise13:**

**Insert a product with category and stock quantity [**'Accessories', 50]**:**

**Exercise14:**

**Insert a product with name, price, and stock quantity [**'Cool Sunglasses', 19.99, 100]**:**

**Exercise15:**

**Insert a product with category and price [**'Electronics', 499.99]**:**

**Exercise16:**

**Insert a product with name, category, and price [**'Stylish Hat', 'Apparel', 9.99]**:**

**Exercise17:**

**Insert a product with stock quantity only [**25]**:**

**Exercise18:**

**Insert a product with name and stock quantity [**'Fancy Pen', 150]**:**

**Exercise19:**

**Insert a product with price only [5.99]**

**Exercise20:**

**Create a table customers with the following columns**

customer\_id INT PRIMARY KEY,

first\_name VARCHAR(50),

last\_name VARCHAR(50),

email VARCHAR(100),

age INT,

balance DECIMAL(10, 2)

**Insert the following 20 rows**

(1, 'Alice', 'Johnson', 'alice@example.com', 28, 1000.00),

(2, 'Bob', 'Smith', 'bob@example.com', 35, 1500.00),

(3, 'Charlie', 'Williams', 'charlie@example.com', 22, 800.00),

(4, 'David', 'Brown', 'david@example.com', 40, 2000.00),

(5, 'Eve', 'Davis', 'eve@example.com', 28, 1200.00),

(6, 'Frank', 'Jones', 'frank@example.com', 45, 1800.00),

(7, 'Grace', 'Taylor', 'grace@example.com', 33, 900.00),

(8, 'Henry', 'Clark', 'henry@example.com', 50, 2500.00),

(9, 'Ivy', 'Thomas', 'ivy@example.com', 29, 1300.00),

(10, 'Jack', 'Wilson', 'jack@example.com', 28, 1100.00),

(11, 'Kate', 'Anderson', 'kate@example.com', 22, 700.00),

(12, 'Leo', 'Martin', 'leo@example.com', 38, 1700.00),

(13, 'Mia', 'Miller', 'mia@example.com', 42, 2300.00),

(14, 'Noah', 'Garcia', 'noah@example.com', 31, 1400.00),

(15, 'Olivia', 'Lopez', 'olivia@example.com', 27, 1000.00),

(16, 'Paul', 'Harris', 'paul@example.com', 44, 2100.00),

(17, 'Quinn', 'Lewis', 'quinn@example.com', 25, 1200.00),

(18, 'Ryan', 'Jackson', 'ryan@example.com', 30, 1600.00),

(19, 'Sophia', 'White', 'sophia@example.com', 32, 1700.00),

(20, 'Thomas', 'Allen', 'thomas@example.com', 36, 1900.00);

**Exercise21:**

**Increase the balance of customer Alice by $500:**

**Exercise22:**

**Decrease the age of customer Bob by 2:**

**Exercise23:**

**Update the email of customer Charlie:**

**Exercise24:**

**Increase the balance of customers aged 30 and above by 10%:**

**Exercise25:**

**Set the balance of customers with no email to $2000:**

**Exercise26:**

**Increase the balance of customers with a last name of 'Johnson' by $100:**

**Exercise27:**

**Update the email of customers with a balance over $1000:**

**Exercise28:**

**Double the balance of customers with ages between 25 and 40:**

**Exercise29:**

**Set the email of customer with ID 5 to 'new\_email@example.com':**

**Exercise30:**

**Decrease the balance of customers with an email ending in '.net' by 15%:**

**Exercise31:**

**Increase the balance of customers aged 30 and above by $200, but only for those with a balance less than $2000:**

**Exercise32:**

**Update the email of customers whose last name is 'Smith' and age is greater than 25:**

**Exercise32:**

**Decrease the balance of customers with a balance over $1500 and age between 30 and 45 by 5%:**

**Exercise34:**

**Update the last name of customers whose first name is 'Alice' to 'Anderson' and age is less than 30:**

**Exercise32:**

**Set the balance of customers with no email and age greater than 40 to $3000:**

**Exercise33:**

**Double the balance of customers with an email containing 'example.com' and whose last name is not 'Johnson':**

**Exercise34:**

**Update the email of customers aged 22 or 35, but only if their balance is below $1000:**

**Exercise35:**

**Increase the balance of customers with a last name starting with 'W' and whose age is not 22 or 40, by $150:**

**Exercise36:**

**Set the email of customers with a balance greater than $2000 and whose first name contains 'C' to 'high\_balance@example.com':**

**Exercise37:**

**Decrease the balance of customers with an email ending in '.org' and whose age is less than 50, by 10%:**

**Exercise38:**

**Create Table employees with the following structure:**

emp\_id INT PRIMARY KEY,

emp\_name VARCHAR(50),

department VARCHAR(50),

salary DECIMAL(10, 2)

age int

**Exercise38:**

**Insert the following 20 rows:**

(101, 'Alice Johnson', 'HR', 50000.00, 22),

(102, 'Bob Smith', 'IT', 60000.00, 34),

(103, 'Charlie Williams', 'Finance', 55000.00, 32),

(104, 'David Brown', 'Marketing', 52000.00, 32),

(105, 'Eve Davis', 'IT', 62000.00, 21),

(106, 'Frank Jones', 'HR', 48000.00, 22),

(107, 'Grace Taylor', 'Finance', 53000.00, 26),

(108, 'Henry Clark', 'Marketing', 57000.00, 28),

(109, 'Ivy Thomas', 'IT', 58000.00, 45),

(110, 'Jack Wilson', 'HR', 51000.00, 43),

(111, 'Kate Anderson', 'IT', 54000.00, 34),

(112, 'Leo Martin', 'Finance', 49000.00, 33),

(113, 'Mia Miller', 'Marketing', 60000.00, 32),

(114, 'Noah Garcia', 'IT', 56000.00, 33),

(115, 'Olivia Lopez', 'Finance', 55000.00, 33),

(116, 'Paul Harris', 'Marketing', 53000.00, 33),

(117, 'Quinn Lewis', 'IT', 61000.00, 21),

(118, 'Ryan Jackson', 'Finance', 52000.00, 22),

(119, 'Sophia White', 'Marketing', 58000.00, 23),

(120, 'Thomas Allen', 'IT', 59000.00, 24);

**Exercise39:**

**Delete an employee with emp\_id 103:**

**Exercise40:**

**Delete employees in the 'HR' department:**

**Exercise41:**

**Delete employees with a salary less than $55000:**

**Exercise42:**

**Delete employees with 'Smith' in their emp\_name:**

**Exercise43:**

**Delete an employee with emp\_id 110 and salary less than $52000:**

**Exercise44:**

**Delete employees in the 'Marketing' department with a salary greater than $56000:**

**Exercise45:**

**Delete employees with 'o' in their emp\_name:**

**Exercise46:**

**Delete employees with a salary of $60000 or higher:**

**Exercise47:**

**Delete an employee with emp\_id 120 and in the 'IT' department:**

**Exercise48:**

**Delete all employees:**

**Exercise49:**

**Delete employees in the 'IT' department with a salary less than $60000:**

**Exercise50:**

**Delete employees in the 'Finance' department who are not named 'Olivia Lopez':**

**Exercise51:**

**Delete employees with a salary greater than $55000 and not in the 'Marketing' department:**

**Exercise52:**

**Delete employees with 'e' in their first name and a salary greater than $55000:**

**Exercise53:**

**Delete employees in the 'Marketing' department with a salary between $50000 and $60000:**

**Exercise54:**

**Delete employees with 'a' in their last name and not in the 'HR' department:**

**Exercise55:**

**Delete employees with a salary less than $53000 and not in the 'Finance' department:**

**Exercise56:**

**Delete employees with an even emp\_id and a salary greater than $55000:**

**Exercise57:**

**Delete employees in the 'HR' department with a salary less than $50000 and not named 'Alice Johnson':**

**Exercise58:**

**Delete employees aged 35 or above with a salary less than $58000:**

**Exercise59:**

**Delete employees in the 'Finance' department or with a salary less than $52000:**

**Exercise60:**

**Delete employees aged 30 or above who are not in the 'IT' department:**

**Exercise61:**

**Delete employees with a salary less than $53000 or with 'e' in their last name:**

**Exercise62:**

**Delete employees in the 'HR' department or with a salary greater than $55000:**

**Exercise63:**

**Delete employees aged 25 or younger or with a salary over $60000:**

**Exercise64:**

**Delete employees with a salary less than $50000 or in the 'Marketing' department:**

**Exercise65:**

**Delete employees with an emp\_id ending in 2 or 4, or with a salary less than $54000:**

**Exercise66:**

**Delete employees aged 40 or above or with 'a' in their first name:**

**Exercise67:**

**Delete employees with a salary less than $56000 or not in the 'IT' department:**

**Exercise68:**

**Delete employees with a salary over $60000 or not named 'Olivia Lopez':**

**Exercise69:**

**Delete employees aged 30 or above and not in the 'IT' department, or with a salary less than $50000:**

**Exercise70:**

**Delete employees in the 'HR' department and with a salary less than $48000, or aged 40 or above:**

**Exercise71:**

**Delete employees with a salary over $60000 and in the 'Finance' department, or aged 45 or above:**

**Exercise72:**

**Delete employees aged 25 or younger and in the 'IT' department, or with a salary over $58000:**

**Exercise73:**

**Delete employees with a salary less than $55000 and not in the 'Marketing' department, or named 'Alice Johnson':**

**Exercise74:**

**Delete employees in the 'Marketing' department and with a salary less than $54000, or named 'Kate Anderson':**

**Exercise75:**

**Delete employees with a salary over $62000 and not in the 'Finance' department, or with 'o' in their last name:**

**Exercise76:**

**Delete employees aged 30 or above and with a salary less than $52000, or not in the 'IT' department:**

**Exercise77:**

**Delete employees in the 'IT' department and with a salary less than $60000, or named 'Leo Martin':**

**Exercise78:**

**Delete employees with a salary over $58000 and in the 'HR' department, or not aged 35 or above:**