**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)

**Solution:**

CREATE TABLE products (

product\_id INT PRIMARY KEY,

product\_name VARCHAR(100),

category VARCHAR(50),

price DECIMAL(10, 2),

stock\_quantity INT

);

**Exercise2:**

**Insert a single product with specific values:**

INSERT INTO products (product\_id, product\_name, category, price, stock\_quantity)

VALUES (201, 'Smartphone', 'Electronics', 599.99, 100);

**Exercise3:**

**Insert multiple products with specific values:**

INSERT INTO products (product\_id, product\_name, category, price, stock\_quantity)

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:**

INSERT INTO products (product\_id, product\_name, category, price)

VALUES (205, 'Basic Accessory', 'Electronics', 4.99);

**Exercise5:**

**Insert a product with calculated values:**

INSERT INTO products (product\_id, product\_name, category, price, stock\_quantity)

VALUES (206, 'Advanced Widget', 'Electronics', 49.99, 150);

**Exercise6:**

**Insert a product with a NULL price:**

INSERT INTO products (product\_id, product\_name, category, stock\_quantity)

VALUES (207, 'Mystery Gadget', 'Electronics', NULL);

**Exercise7:**

**Insert a product with a specific price using a CASE statement:**

INSERT INTO products (product\_id, product\_name, category, price, stock\_quantity)

VALUES (209, 'Special Widget', 'Electronics',

CASE

WHEN stock\_quantity >= 175 THEN 19.99

ELSE 24.99

END,

125);

**Exercise8:**

**Insert a product using default values for price and stock quantity:**

INSERT INTO products (product\_id, product\_name, category)

VALUES (211, 'Basic Module', 'Miscellaneous');

**Exercise9:**

**Insert a product with a random price using the RAND() function:**

INSERT INTO products (product\_id, product\_name, category, price, stock\_quantity)

VALUES (212, 'Random Gadget', 'Miscellaneous', ROUND(RAND() \* 25 + 5, 2), 20);

**Exercise10:**

**Insert a product with only essential columns (product\_id, product\_name):**

INSERT INTO products (product\_id, product\_name)

VALUES (301, 'Basic Widget');

**Exercise11:**

**Insert a product with name and price:**

INSERT INTO products (product\_name, price)

VALUES ('Compact Gadget', 29.99);

**Exercise12:**

**Insert a product with name and category:**

INSERT INTO products (product\_name, category)

VALUES ('Casual Shoes', 'Footwear');

**Exercise13:**

**Insert a product with category and stock quantity:**

INSERT INTO products (category, stock\_quantity)

VALUES ('Accessories', 50);

**Exercise14:**

**Insert a product with name, price, and stock quantity:**

INSERT INTO products (product\_name, price, stock\_quantity)

VALUES ('Cool Sunglasses', 19.99, 100);

**Exercise15:**

**Insert a product with category and price:**

INSERT INTO products (category, price)

VALUES ('Electronics', 499.99);

**Exercise16:**

**Insert a product with name, category, and price:**

INSERT INTO products (product\_name, category, price)

VALUES ('Stylish Hat', 'Apparel', 9.99);

**Exercise17:**

**Insert a product with stock quantity only:**

INSERT INTO products (stock\_quantity)

VALUES (25);

**Exercise18:**

**Insert a product with name and stock quantity:**

INSERT INTO products (product\_name, stock\_quantity)

VALUES ('Fancy Pen', 150);

**Exercise19:**

**Insert a product with price only:**

INSERT INTO products (price)

VALUES (5.99);

**Exercise20:**

**Create a table 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)

CREATE TABLE customers (

customer\_id INT PRIMARY KEY,

first\_name VARCHAR(50),

last\_name VARCHAR(50),

email VARCHAR(100),

age INT,

balance DECIMAL(10, 2)

);

**Exercise21:**

**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);

INSERT INTO customers (customer\_id, first\_name, last\_name, email, age, balance)

VALUES

(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);

**Exercise22:**

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

UPDATE customers

SET balance = balance + 500

WHERE first\_name = 'Alice';

**Exercise22:**

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

UPDATE customers

SET age = age - 2

WHERE first\_name = 'Bob';

**Exercise23:**

**Update the email of customer Charlie:**

UPDATE customers

SET email = 'charlie.new@example.com'

WHERE first\_name = 'Charlie';

**Exercise24:**

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

UPDATE customers

SET balance = balance \* 1.1

WHERE age >= 30;

**Exercise25:**

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

UPDATE customers

SET balance = 2000.00

WHERE email IS NULL;

**Exercise26:**

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

UPDATE customers

SET balance = balance + 100

WHERE last\_name = 'Johnson';

**Exercise27:**

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

UPDATE customers

SET email = 'high\_balance@example.com'

WHERE balance > 1000.00;

**Exercise28:**

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

UPDATE customers

SET balance = balance \* 2

WHERE age BETWEEN 25 AND 40;

**Exercise29:**

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

UPDATE customers

SET email = 'new\_email@example.com'

WHERE customer\_id = 5;

**Exercise30:**

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

UPDATE customers

SET balance = balance \* 0.85

WHERE email LIKE '%.net';

**Exercise31:**

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

UPDATE customers

SET balance = balance + 200

WHERE age >= 30 AND balance < 2000.00;

**Exercise32:**

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

UPDATE customers

SET email = 'updated\_email@example.com'

WHERE last\_name = 'Smith' AND age > 25;

**Exercise32:**

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

UPDATE customers

SET balance = balance \* 0.95

WHERE balance > 1500.00 AND age BETWEEN 30 AND 45;

**Exercise34:**

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

UPDATE customers

SET last\_name = 'Anderson'

WHERE first\_name = 'Alice' AND age < 30;

**Exercise32:**

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

UPDATE customers

SET balance = 3000.00

WHERE email IS NULL AND age > 40;

**Exercise33:**

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

UPDATE customers

SET balance = balance \* 2

WHERE email LIKE '%example.com%' AND last\_name <> 'Johnson';

**Exercise34:**

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

UPDATE customers

SET email = 'updated\_email@example.com'

WHERE (age = 22 OR age = 35) AND balance < 1000.00;

**Exercise35:**

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

UPDATE customers

SET balance = balance + 150

WHERE last\_name LIKE 'W%' AND age NOT IN (22, 40);

**Exercise36:**

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

UPDATE customers

SET email = 'high\_balance@example.com'

WHERE balance > 2000.00 AND first\_name LIKE '%C%';

**Exercise37:**

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

UPDATE customers

SET balance = balance \* 0.9

WHERE email LIKE '%.org' AND age < 50;

**Exercise38:**

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

emp\_id INT PRIMARY KEY,

emp\_name VARCHAR(50),

department VARCHAR(50),

salary DECIMAL(10, 2)

CREATE TABLE employees (

emp\_id INT PRIMARY KEY,

emp\_name VARCHAR(50),

department VARCHAR(50),

salary DECIMAL(10, 2)

);

**Exercise38:**

**Insert the following 20 rows:**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

INSERT INTO employees (emp\_id, emp\_name, department, salary)

VALUES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Exercise39:**

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

DELETE FROM employees WHERE emp\_id = 103;

**Exercise40:**

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

DELETE FROM employees WHERE department = 'HR';

**Exercise41:**

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

DELETE FROM employees WHERE salary < 55000.00;

**Exercise42:**

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

DELETE FROM employees WHERE emp\_name LIKE '%Smith%';

**Exercise43:**

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

DELETE FROM employees WHERE emp\_id = 110 AND salary < 52000.00;

**Exercise44:**

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

DELETE FROM employees WHERE department = 'Marketing' AND salary > 56000.00;

**Exercise45:**

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

DELETE FROM employees WHERE emp\_name LIKE '%o%';

**Exercise46:**

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

DELETE FROM employees WHERE salary >= 60000.00;

**Exercise47:**

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

DELETE FROM employees WHERE emp\_id = 120 AND department = 'IT';

**Exercise48:**

**Delete all employees:**

DELETE FROM employees;

**Exercise49:**

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

DELETE FROM employees

WHERE department = 'IT' AND salary < 60000.00;

**Exercise50:**

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

DELETE FROM employees

WHERE department = 'Finance' AND emp\_name <> 'Olivia Lopez';

**Exercise51:**

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

DELETE FROM employees

WHERE salary > 55000.00 AND department <> 'Marketing';

**Exercise52:**

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

DELETE FROM employees

WHERE emp\_name LIKE '%e%' AND salary > 55000.00;

**Exercise53:**

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

DELETE FROM employees

WHERE department = 'Marketing' AND salary BETWEEN 50000.00 AND 60000.00;

**Exercise54:**

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

DELETE FROM employees

WHERE emp\_name LIKE '%a%' AND department <> 'HR';

**Exercise55:**

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

DELETE FROM employees

WHERE salary < 53000.00 AND department <> 'Finance';

**Exercise56:**

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

DELETE FROM employees

WHERE emp\_id % 2 = 0 AND salary > 55000.00;

**Exercise57:**

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

DELETE FROM employees

WHERE department = 'HR' AND salary < 50000.00 AND emp\_name <> 'Alice Johnson';

**Exercise58:**

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

DELETE FROM employees

WHERE age >= 35 AND salary < 58000.00;

**Exercise59:**

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

DELETE FROM employees

WHERE department = 'Finance' OR salary < 52000.00;

**Exercise60:**

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

DELETE FROM employees

WHERE age >= 30 OR department <> 'IT';

**Exercise61:**

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

DELETE FROM employees

WHERE salary < 53000.00 OR emp\_name LIKE '%e%';

**Exercise62:**

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

DELETE FROM employees

WHERE department = 'HR' OR salary > 55000.00;

**Exercise63:**

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

DELETE FROM employees

WHERE age <= 25 OR salary > 60000.00;

**Exercise64:**

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

DELETE FROM employees

WHERE salary < 50000.00 OR department = 'Marketing';

**Exercise65:**

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

DELETE FROM employees

WHERE emp\_id % 10 IN (2, 4) OR salary < 54000.00;

**Exercise66:**

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

DELETE FROM employees

WHERE age >= 40 OR emp\_name LIKE '%a%';

**Exercise67:**

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

DELETE FROM employees

WHERE salary < 56000.00 OR department <> 'IT';

**Exercise68:**

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

DELETE FROM employees

WHERE salary > 60000.00 OR emp\_name <> 'Olivia Lopez';

**Exercise69:**

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

DELETE FROM employees

WHERE (age >= 30 AND department <> 'IT') OR salary < 50000.00;

**Exercise70:**

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

DELETE FROM employees

WHERE (department = 'HR' AND salary < 48000.00) OR age >= 40;

**Exercise71:**

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

DELETE FROM employees

WHERE (salary > 60000.00 AND department = 'Finance') OR age >= 45;

**Exercise72:**

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

DELETE FROM employees

WHERE (age <= 25 AND department = 'IT') OR salary > 58000.00;

**Exercise73:**

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

DELETE FROM employees

WHERE (salary < 55000.00 AND department <> 'Marketing') OR emp\_name = 'Alice Johnson';

**Exercise74:**

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

DELETE FROM employees

WHERE (department = 'Marketing' AND salary < 54000.00) OR emp\_name = 'Kate Anderson';

**Exercise75:**

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

DELETE FROM employees

WHERE (salary > 62000.00 AND department <> 'Finance') OR emp\_name LIKE '%o%';

**Exercise76:**

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

DELETE FROM employees

WHERE (age >= 30 AND salary < 52000.00) OR department <> 'IT';

**Exercise77:**

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

DELETE FROM employees

WHERE (department = 'IT' AND salary < 60000.00) OR emp\_name = 'Leo Martin';

**Exercise78:**

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

DELETE FROM employees

WHERE (salary > 58000.00 AND department = 'HR') OR age < 35;