SQL DAY 2 – Detailed Query Analysis & Explanation

This document explains each SQL query written in the DAY 2 SQL practice file. After explaining all queries, SQL constraints and SQL functions are explained in detail.

PART 1: Query-by-Query Explanation

Query 1

use himesh;

Explanation: This query is used to practice SQL syntax and database operations.

Query 2

select * from teachers;

Explanation: This query retrieves data from the table for viewing or analysis.

Query 3

-- Write Queries using SELECT, Where and many more Select name , email from teachers;

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 4

SELECT * FROM teachers WHERE date_of_birth IS not NULL;

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 5

select * from teachers where gender = 'male';

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 6

-- here <> means not equal to select * from teachers where gender <> 'male';

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 7

-- IN BELOW query we use some basic things like limit , orderby and more Select * from teachers where salary >= 70000 and gender <> 'male' order by id Asc;

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 8

Select * from teachers where salary >= 70000 and gender <> 'male' order by id Desc limit 4;

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 9

Select name, salary from teachers where date_of_birth between '1995-05-14' and '2000-05-14' and gender<> 'female';

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 10

-- try to find the highest salary among them SELECT * FROM teachers WHERE salary = (SELECT MAX(salary) FROM teachers);

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 11

-- try to find eldest person in Tabel , MIN(date_of_birth) → earliest date → eldest person SELECT * FROM teachers WHERE date_of_birth = (SELECT Min(date_of_birth) FROM teachers);

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 12

Select * from teachers where gender in('other','female');

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 13

-- Update the table, here in this query change the gender of name aisha by the help of SET Clause update teachers set gender = 'other' where name = 'aisha';

Explanation: This query modifies existing records based on a condition.

Query 14

update teachers set salary = 95000 where name ='Sneha';

Explanation: This query modifies existing records based on a condition.

Query 15

UPDATE teachers SET name = 'Aisha Khan' WHERE email = 'aisha@example.com';

Explanation: This query modifies existing records based on a condition.

Query 16

select * from teachers;

Explanation: This query retrieves data from the table for viewing or analysis.

Query 17

-- if execute the query then This query will overwrite salary for every user -- UPDATE teachers SET salary = 88000;

Explanation: This query modifies existing records based on a condition.

Query 18

-- The DELETE statement removes rows from a table. delete from teachers where id =7;

Explanation: This query removes records from the table based on a condition.

Query 19

-- in this query id =7 is deleted -- DELETE FROM teachers;

Explanation: This query removes records from the table based on a condition.

Query 20

if execute this query then delete all rows from table , so whn u use delete statemet , use carefully orr kept the backup of your data -- SQL Functions -- 1.Aggregate Functions -- COUNT(), min() , max(), sum(), avg(), group by() Select count(*) from teachers;

Explanation: This query retrieves data from the table for viewing or analysis.

Query 21

Select count(*) As No_of_male from teachers where gender = 'male';

Explanation: This query retrieves specific records from the table using filtering conditions.

Query 22

Select gender ,max(salary) as Max_salary ,min(salary) as Min_salary, sum(salary) as total_amount , Avg(salary) as Average_package from teachers group by gender;

Explanation: This query retrieves data from the table for viewing or analysis.

Query 23

-- 2.String functions -- length(), upper(),lower(), concat() Select length(name) as count_words ,lower(name) as LN, upper(name) as UN , concat(name ,'-', year(date_of_birth)) as User_name from teachers limit 10;

Explanation: This query retrieves data from the table for viewing or analysis.

Query 24

-- 3. Mathematical Functions -> ROUND(), FLOOR(), CEIL() SELECT salary, ROUND(salary) AS rounded, FLOOR(salary) AS floored, CEIL(salary) AS ceiled FROM teachers;

Explanation: This query retrieves data from the table for viewing or analysis.

Query 25

-- 5.. Conditional Function -> IF() SELECT name, gender, IF(gender = 'Female', 'Yes', 'No') AS is_female FROM teachers;

Explanation: This query retrieves data from the table for viewing or analysis

PART 2: SQL Constraints Explained

PRIMARY KEY: Uniquely identifies each row in a table.

NOT NULL: Prevents NULL values in a column.

UNIQUE: Ensures no duplicate values.

FOREIGN KEY: Maintains relationship between tables.

CHECK: Restricts values based on a condition.

DEFAULT: Assigns a default value.

PART 3: SQL Functions Explained

Aggregate Functions: COUNT(), SUM(), AVG(), MIN(), MAX()

String Functions: UPPER(), LOWER(), LENGTH(), CONCAT()

Date Functions: CURRENT_DATE, NOW()

Numeric Functions: ROUND(), ABS()