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Sanjana Thakur <sanjanathakur302@gmail.com>

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1 message

sanjana thakur <tsanjana404@gmail.com>   Fri, Aug 9, 2024 at 11:43 AM
To: "sanjanathakur302@gmail.com" <sanjanathakur302@gmail.com>

SQL Practice Exercise [33 Exercises with Solutions]
I've been practicing SQL and thought of sharing some interesting exercises along with their solutions. Here are a few of them:

1. Display All Information About Salespeople
Write a SQL statement that displays all the information about all salespeople.
Sample Table: salesman

salesman_id	name	city	commission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5005	Pit Alex	London	0.11
5006	Mc Lyon	Paris	0.14
5007	Paul Adam	Rome	0.13
5003	Lauson Hen	San Jose	0.12

SQL Query:

SELECT * FROM salesman;

2. Display a String Message
Write a SQL statement to display the string "This is SQL Exercise, Practice and Solution".
SQL Query:

SELECT 'This is SQL Exercise, Practice and Solution';

3. Display Three Numbers in Three Columns
Write a SQL query to display three numbers in three columns.
SQL Query:

SELECT 10 AS first_number, 20 AS second_number, 30 AS third_number;

4. Display the Sum of Two Numbers
Write a SQL query to display the sum of two numbers, 10 and 15, from the RDBMS server.
SQL Query:

SELECT 10 + 15 AS sum_result;

5. Display the Result of an Arithmetic Expression
Write a SQL query to display the result of an arithmetic expression.
SQL Query:

SELECT (10 * 5) / 2 + 3 AS expression_result;

6. Display Specific Columns
Write a SQL statement to display specific columns such as names and commissions for all salespeople.
Sample Table: salesman

salesman_id	name	city	commission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5005	Pit Alex	London	0.11
5006	Mc Lyon	Paris	0.14
5007	Paul Adam	Rome	0.13
5003	Lauson Hen	San Jose	0.12

SQL Query:

SELECT name, commission FROM salesman;

7. Display Columns in Specific Order
Write a SQL query to display the columns in a specific order, such as order date, salesman ID, order number, and purchase amount for all orders.
Sample Table: orders

ord_no	purch_amt	ord_date	customer_id	salesman_id
70001	150.5	2012-10-05	3005	5002
70009	270.65	2012-09-10	3001	5005
70002	65.26	2012-10-05	3002	5001
70004	110.5	2012-08-17	3009	5003

SQL Query:

SELECT ord_date, salesman_id, ord_no, purch_amt FROM orders;

8. Identify Unique Salespeople IDs
Write a SQL query to identify the unique salespeople ID from the orders table.
Sample Table: orders

ord_no	purch_amt	ord_date	customer_id	salesman_id
70001	150.5	2012-10-05	3005	5002
70009	270.65	2012-09-10	3001	5005
70002	65.26	2012-10-05	3002	5001
70004	110.5	2012-08-17	3009	5003

SQL Query:

SELECT DISTINCT salesman_id FROM orders;

9. Locate Salespeople in Paris
Write a SQL query to locate salespeople who live in the city of 'Paris'. Return the salesperson's name and city.
Sample Table: salesman

salesman_id	name	city	commission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5005	Pit Alex	London	0.11
5006	Mc Lyon	Paris	0.14

SQL Query:

SELECT name, city FROM salesman WHERE city = 'Paris';

10. Find Customers with Grade 200
Write a SQL query to find customers whose grade is 200. Return customer_id, cust_name, city, grade, and salesman_id.
Sample Table: customer

customer_id	cust_name	city	grade	salesman_id
3002	Nick Rimando	New York	100	5001
3007	Brad Davis	New York	200	5001
3005	Graham Zusi	California	200	5002

SQL Query:

SELECT customer_id, cust_name, city, grade, salesman_id
FROM customer
WHERE grade = 200;

11. Find Orders Delivered by Salesperson ID 5001
Query:

SELECT ord_no, ord_date, purch_amt
FROM orders
WHERE salesman_id = 5001;

12. Find Nobel Prize Winner(s) for the Year 1970

Query:

```
SELECT YEAR, SUBJECT, WINNER
FROM nobel_win
WHERE YEAR = 1970;
```

13. Find Nobel Prize Winner in Literature for 1971
Query:

```
SELECT WINNER
FROM nobel_win
WHERE YEAR = 1971 AND SUBJECT = 'Literature';
```

14. Locate Nobel Prize Winner Dennis Gabor
Query:

```
SELECT YEAR, SUBJECT
FROM nobel_win
WHERE WINNER = 'Dennis Gabor';
```

15. Find Nobel Prize Winners in Physics Since 1950
Query:

```
SELECT WINNER
FROM nobel_win
WHERE SUBJECT = 'Physics' AND YEAR >= 1950;
```

16. Find Nobel Prize Winners in Chemistry Between 1965 and 1975
Query:

```
SELECT YEAR, SUBJECT, WINNER, COUNTRY
FROM nobel_win
WHERE SUBJECT = 'Chemistry' AND YEAR BETWEEN 1965 AND 1975;
```

17. Display Details of Prime Ministerial Winners After 1972 of Menachem Begin and Yitzhak Rabin
Query:

```
SELECT *
FROM nobel_win
WHERE CATEGORY = 'Prime Minister' AND WINNER IN ('Menachem Begin', 'Yitzhak Rabin') AND YEAR > 1972;
```

18. Retrieve Details of Winners Whose First Names Match with the String 'Louis'
Query:

```
SELECT YEAR, SUBJECT, WINNER, COUNTRY, CATEGORY
FROM nobel_win
WHERE WINNER LIKE 'Louis%';
```

19. Combine Winners in Physics (1970) and Economics (1971)
Query:

```
SELECT YEAR, SUBJECT, WINNER, COUNTRY, CATEGORY
FROM nobel_win
WHERE (YEAR = 1970 AND SUBJECT = 'Physics') OR (YEAR = 1971 AND SUBJECT = 'Economics');
```

20. Find Nobel Prize Winners in 1970 Excluding Physiology and Economics
Query:

```
SELECT YEAR, SUBJECT, WINNER, COUNTRY, CATEGORY
FROM nobel_win
WHERE YEAR = 1970 AND SUBJECT NOT IN ('Physiology', 'Economics');
```

21. Combine the winners in 'Physiology' before 1971 and winners in 'Peace' on or after 1974.

```
SELECT year, subject, winner, country, category
FROM nobel_win
WHERE (subject = 'Physiology' AND year < 1971)
   OR (subject = 'Peace' AND year >= 1974);
```

22. Find the details of the Nobel Prize winner 'Johannes Georg Bednorz'.

SELECT year, subject, winner, country, category
FROM nobel_win
WHERE winner = 'Johannes Georg Bednorz';

23. Find Nobel Prize winners for subjects that do not begin with the letter 'P'.

SELECT year, subject, winner, country, category
FROM nobel_win
WHERE subject NOT LIKE 'P%'
ORDER BY year DESC, winner ASC;

24. Find the details of 1970 Nobel Prize winners, ordering by subject (except 'Chemistry' and 'Economics' at the end).

SELECT year, subject, winner, country, category
FROM nobel_win
WHERE year = 1970
ORDER BY
  CASE
    WHEN subject IN ('Chemistry', 'Economics') THEN 1
    ELSE 0
  END,
  subject ASC;

25. Select a range of products whose price is between Rs.200 to Rs.600.

SELECT pro_id, pro_name, pro_price, pro_com
FROM item_mast
WHERE pro_price BETWEEN 200 AND 600;

26. Calculate the average price for a manufacturer code of 16.

SELECT AVG(pro_price) AS avg
FROM item_mast
WHERE pro_com = 16;

27. Display the pro_name as 'Item Name' and pro_price as 'Price in Rs.'.

SELECT pro_name AS "Item Name", pro_price AS "Price in Rs."
FROM item_mast;

28. Find the items whose prices are higher than or equal to $250, ordered by price descending and name ascending.

SELECT pro_name, pro_price
FROM item_mast
WHERE pro_price >= 250
ORDER BY pro_price DESC, pro_name ASC;

29. Calculate the average price of the items for each company.

SELECT pro_com, AVG(pro_price) AS avg_price
FROM item_mast
GROUP BY pro_com;

30. Find the cheapest item(s).

SELECT pro_name, pro_price
FROM item_mast
WHERE pro_price = (SELECT MIN(pro_price) FROM item_mast);

31. Find the unique last name of all employees.

SELECT DISTINCT emp_lname
FROM emp_details;

32. Find the details of employees whose last name is 'Snares'.

SELECT emp_idno, emp_fname, emp_lname, emp_dept
FROM emp_details
WHERE emp_lname = 'Snares';

33. Retrieve the details of the employees who work in department 57.

SELECT emp_idno, emp_fname, emp_lname, emp_dept
FROM emp_details
WHERE emp_dept = 57;