

Lab6SQL_ANP_C7281_Operator

Virtual programming lab

By

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Lab6SQL_ANP_C7281_Operator

Lab 1:

Database Schema Already we have created an employee table in day 2 lab, let's utilize this.

Task: Add two more columns in the Employee table named Salary and Department and add data into it. Now Imagine you work for a company with various departments, and there is a need to analyze employee salaries within the IT department. Write a query to retrieve all employees from the "employee" table who have a salary greater than 50000 and are in the 'IT' department

Hint: Use the AND operator to retrieve details.

Submission:

Create an SQL script file containing your solutions for the task. Name the file "lab_assignment1.sql" Provide comments above the query to indicate the query's purpose.

Lab 2:

Database Schema

Use our database E-commerce to complete the task.

Task: Imagine you are managing an e-commerce platform, and the holiday season is approaching. To capitalize on the festive spirit and boost sales, you decide to organize a special seasonal sale featuring electronics. The goal is to offer discounts on electronics and include products with a price less than rs. 70,000 in the promotion. Write a query to find products from the "product" table that are either in the 'Electronics' category or have a price less than 70000.

Hint: Use Or operator to retrieve product details.

Submission:

Create an SQL script file containing your solutions for the task. Name the file "lab_assignment2.sql" Provide comments above the query to indicate the query's purpose.

Lab 3.

Task: Imagine you are an HR analyst responsible for conducting a comprehensive

analysis of average salaries across different departments within a company. The goal is to understand and compare the average salaries of employees in various departments. Write a query to Calculate the average salary of employee in each department from the "employee" table.

Hint: Use the AVG () function and GROUP BY clause to create the query.

Submission:

Create an SQL script file containing your solutions for the task. Name the file "lab_assignment3.sql" Provide comments above the query to indicate the query's purpose.

ChatGPT Exercise

Using ChatGPT generates SQL queries of the below problem.

Scenario 1: Determine the average age of employees in each department from the "employees" table. We have an "Employee" table with the following columns: employee_id, employee_name, department, and salary and you want to find the average salary for each department. Generate the chatGPT prompt for the above scenario.

SOL:-

Lab 1:

Database Schema

Already we have created an employee table in day 2 lab, let's utilize this.

```
mysql> describe employee;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key  | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| emp_id     | int           | NO   | PRI  | NULL    |       |
| firstname  | varchar(30)   | NO   |      | NULL    |       |
| lastname   | varchar(30)   | NO   |      | NULL    |       |
| age        | int           | NO   |      | NULL    |       |
| email      | varchar(30)   | NO   | UNI  | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.06 sec)
```

Task: Add two more columns in the Employee table named Salary and Department and add data into it. Now Imagine you work for a company with various departments, and there is a need to analyze employee salaries within the IT department.

```
mysql> ALTER TABLE Employee
  -> ADD Salary DECIMAL(10,2),
  -> ADD department VARCHAR(20);
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe employee;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| emp_id         | int           | NO   | PRI | NULL    |       |
| firstname      | varchar(30)   | NO   |     | NULL    |       |
| lastname       | varchar(30)   | NO   |     | NULL    |       |
| age            | int           | NO   |     | NULL    |       |
| email          | varchar(30)   | NO   | UNI | NULL    |       |
| Salary         | decimal(10,2) | YES  |     | NULL    |       |
| department     | varchar(20)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

```
mysql> select * from employee;
+-----+-----+-----+-----+-----+-----+-----+
| emp_id | firstname | lastname | age | email                | Salary | department |
+-----+-----+-----+-----+-----+-----+-----+
| 1      | Pedda     | Jagadeesh | 20  | pedda.Jeep@gmail.com | 75000.00 | IT          |
| 2      | Aqtar     | Sai      | 23  | Aqtarsai@gmail.com   | 62000.50 | Marketing   |
| 3      | Amarnath  | Reddy    | 23  | amar123@gmail.com     | 80000.75 | Sales       |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql>
```

Write a query to retrieve all employees from the "employee" table who have a salary greater than 50000 and are in the 'IT' department

Hint: Use the AND operator to retrieve details.

```
mysql> SELECT *
-> FROM employee
-> WHERE department = 'IT' AND salary > 50000;
```

emp_id	firstname	lastname	age	email	Salary	department
1	Pedda	Jagadeesh	20	pedda.Jeep@gmail.com	75000.00	IT

```
1 row in set (0.02 sec)
```

Submission:

Create an SQL script file containing your solutions for the task. Name the file

"lab_assignment1.sql" Provide comments above the query to indicate the query's purpose.

Lab 2:

Database Schema

Use our database E-commerce to complete the task.

```
mysql> use ecommerce;
Database changed
```

Task: Imagine you are managing an e-commerce platform, and the holiday season is approaching. To capitalize on the festive spirit and boost sales, you decide to organize a special seasonal sale featuring electronics. The goal is to offer discounts on electronics and include products with a price less than rs. 70,000 in the promotion. Write a query to find products from the "product" table that are either in the 'Electronics' category or have a price less than 70000.

Hint: Use Or operator to retrieve product details.

```
mysql> SELECT name, category, price, price * 0.1 AS discount_price
-> FROM product
-> WHERE category = 'Electronics' OR price < 70000;
```

name	category	price	discount_price
Laptop X	Electronics	59999.99	5999.999
Smart TV Y	Electronics	34999.99	3499.999
Headphones Z	Electronics	7999.99	799.999
Running shoes A	Clothing	2999.99	299.999
Dress B	Clothing	4999.99	499.999
Wireless mouse M	Electronics	999.99	99.999
Fitness tracker W	Electronics	3999.99	399.999

7 rows in set (0.00 sec)

Submission:

Create an SQL script file containing your solutions for the task. Name the file "lab_assignment2.sql" Provide comments above the query to indicate the query's purpose.

Lab 3.

Task: Imagine you are an HR analyst responsible for conducting a comprehensive

analysis of average salaries across different departments within a company. The goal is to understand and compare the average salaries of employees in various departments. Write a query to Calculate the average salary of employee in each department from the "employee" table.

Hint: Use the AVG () function and GROUP BY clause to create the query.

Submission:

Create an SQL script file containing your solutions for the task. Name the file "lab_assignment3.sql" Provide comments above the query to indicate the query's purpose.

```
mysql> select * from employee;
```

employee_id	name	department	salary
1	John Doe	Engineering	75000.00
2	Jane Smith	Marketing	68000.50
3	Michael Lee	Sales	82000.75
4	Olivia Jones	Human Resources	65000.00
5	William Brown	Engineering	80000.25
6	Sophia Garcia	Marketing	62000.90
7	David Miller	Sales	78000.10
8	Jennifer Hernandez	Human Resources	59000.50
9	Robert Davis	Engineering	85000.00
10	Ashley Young	Marketing	60000.75

```
10 rows in set (0.00 sec)
```



```
mysql> SELECT department,
-> AVG(salary) AS average_salary
-> FROM employee
-> GROUP BY department;
```

department	average_salary
Engineering	80000.083333
Marketing	63334.050000
Sales	80000.425000
Human Resources	62000.250000

```
4 rows in set (0.00 sec)
```

ChatGPT Exercise

Using ChatGPT generates SQL queries of the below problem.

Scenario 1: Determine the average age of employees in each department from the "employees" table. We have an "Employee" table with the following columns: employee_id, employee_name, department, and salary and you want to find the average salary for each department. Generate the chatGPT prompt for the above scenario.

```
mysql> select * from employee;
```

employee_id	name	department	salary	age
1	John Doe	Engineering	75000.00	30
2	Jane Smith	Marketing	68000.50	28
3	Michael Lee	Sales	82000.75	35
4	Olivia Jones	Human Resources	65000.00	27
5	William Brown	Engineering	80000.25	32
6	Sophia Garcia	Marketing	62000.90	29
7	David Miller	Sales	78000.10	34
8	Jennifer Hernandez	Human Resources	59000.50	26
9	Robert Davis	Engineering	85000.00	38
10	Ashley Young	Marketing	60000.75	25

```
10 rows in set (0.00 sec)
```

```
mysql> SELECT department,  
-> AVG(age) AS average_age  
-> FROM employee  
-> GROUP BY department;
```

department	average_age
Engineering	33.333333333333336
Marketing	27.333333333333332
Sales	34.5
Human Resources	26.5

```
4 rows in set (0.00 sec)
```

```
mysql> SELECT department, AVG(salary) AS average_salary  
-> FROM employee  
-> GROUP BY department;
```

department	average_salary
Engineering	80000.083333
Marketing	63334.050000
Sales	80000.425000
Human Resources	62000.250000

```
4 rows in set (0.00 sec)
```