

SQL\_lab5\_Annp\_c7281\_groupBY

BY

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# SQL\_lab5\_An\_p\_c7281\_groupBY

Lab 1-

Database Schema:

Use the same database scheme created in Previous Lab.

Task: Let's consider a scenario where you want to retrieve information about students from a database table named student and display the results in ascending order based on their last names.

Hint: Use orderBy clause in a ascending Order

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 the same database scheme created in Previous Lab.

Task: Let's consider a scenario where you want to count the number of students based on their gender from a database table named Student.

Hint: use the GroupBy clause and Count() function

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.

## ChatGPT Exercise

Using ChatGPT generates SQL queries of the below problem.

### Scenario 1:

Library Books Given a table called books with columns book\_id, title, and author\_id, write a query to count the number of books written by each author, ordering the results by the author's name without using a join clause.

Sol:-

Lab 1-

### Database Schema:

Use the same database scheme created in the Previous Lab.

Task: Let's consider a scenario where you want to retrieve information about students from a database table named student and display the results in ascending order based on their last names.

Hint: Use orderBy clause in an ascending Order

### 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.

```
mysql> SELECT *
-> FROM student_data
-> ORDER BY last_name ASC;
```

ID	First_Name	Last_Name	City	Age	Date_Of_Joining
14	Sachin	Acharya	Bangalore	22	2020-01-01
15	Tanveer	Ahmed	Chennai	23	2019-05-09
4	Anagha	Ahuja	Chennai	22	2018-12-12
10	Sharanya	Ahuja	Mumbai	20	2020-04-15
6	Bimla	Bhatt	Ahmedabad	21	2021-03-21
5	Bishwas	Bora	Ahmedabad	44	2015-02-01
9	Ramya	Bose	Bangalore	25	2019-09-25
3	Abhay	Chander	Mumbai	27	2019-08-07
18	Deepika	Chatterjee	Ahmedabad	29	2020-11-05
13	Dilshan	Gupta	Jaipur	23	2014-02-07
16	Rupali	Gupta	Chennai	21	2020-06-23
19	Zhyn	Jackman	Bangalore	24	2019-06-22
1	Akash	Kumar	Jaipur	24	2020-03-28
7	Brijesh	Kumar	Jaipur	22	2021-01-01
11	Suhas	Rai	Bangalore	27	2016-05-14
2	Aaishwarya	Ray	Mumbai	32	2020-05-29
12	Goutham	Sharma	Ahmedabad	26	2020-07-20
8	Arjun	Shet	Bangalore	19	2020-12-31
17	Deepika	Verma	Ahmedabad	26	2017-08-22

Lab 2-

Database Schema:

Use the same database scheme created in Previous Lab.

Task: Let's consider a scenario where you want to count the number of students based on their gender from a database table named Student.

Hint: use the GroupBy clause and Count() function

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.

```
mysql> select * from student1;
```

ID	First_Name	Last_Name	City	Age	Date_Of_Joining	Gender
1	Akash	Kumar	Jaipur	24	2020-03-28	Male
2	Aishwarya	Ray	Mumbai	32	2020-05-29	Female
3	Abhay	Chander	Mumbai	27	2019-08-07	Male
4	Anagha	Ahuja	Chennai	22	2018-12-12	Female
5	Bishwas	Bora	Ahmedabad	44	2015-02-01	Male
6	Bimla	Bhatt	Ahmedabad	21	2021-03-21	Male
7	Brijesh	Kumar	Jaipur	22	2021-01-01	Male
8	Arjun	Shet	Bangalore	19	2020-12-31	Male
9	Ramya	Bose	Bangalore	25	2019-09-25	Female
10	Sharanya	Ahuja	Mumbai	20	2020-04-15	Female
11	Suhas	Rai	Bangalore	27	2016-05-14	Female
12	Goutham	Sharma	Ahmedabad	26	2020-07-20	Male
13	Dilshan	Gupta	Jaipur	23	2014-02-07	Male
14	Sachin	Acharya	Bangalore	22	2020-01-01	Male
15	Tanveer	Ahmed	Chennai	23	2019-05-09	Male
16	Rupali	Gupta	Chennai	21	2020-06-23	Female
17	Deepika	Verma	Ahmedabad	26	2017-08-22	Female
18	Deepika	Chatterjee	Ahmedabad	29	2020-11-05	Female
19	Zhyn	Jackman	Bangalore	24	2019-06-22	Male

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

```
mysql> SELECT Gender, COUNT(*) AS number_of_students
-> FROM student1
-> GROUP BY Gender;
```

Gender	number_of_students
Male	11
Female	8

```
2 rows in set (0.18 sec)
```

## ChatGPT Exercise

Using ChatGPT generates SQL queries of the below problem.

Scenario 1:

Library Books Given a table called books with columns book\_id, title, and author\_id, write a query to count the number of books written by each author, ordering the results by the author's name without using a join clause.

```
mysql> CREATE TABLE Books (
->   book_id INT PRIMARY KEY,
->   title VARCHAR(255) NOT NULL,
->   author_name VARCHAR(255) -- Include author name directly in this table
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> describe Books;
```

Field	Type	Null	Key	Default	Extra
book_id	int	NO	PRI	NULL	
title	varchar(255)	NO		NULL	
author_name	varchar(255)	YES		NULL	

3 rows in set (0.00 sec)

```
mysql> INSERT INTO Books (book_id, title, author_name)
-> VALUES (1, 'The Lord of the Rings', 'J.R.R. Tolkien'),
->          (2, 'A Song of Ice and Fire', 'George R.R. Martin'),
->          (3, 'The Handmaid\'s Tale', 'Margaret Atwood'),
->          (4, 'The Alchemist', 'Paulo Coelho'),
->          (5, 'To Kill a Mockingbird', 'Harper Lee');
```

Query OK, 5 rows affected (0.21 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> select * from Books;
```

book_id	title	author_name
1	The Lord of the Rings	J.R.R. Tolkien
2	A Song of Ice and Fire	George R.R. Martin
3	The Handmaid's Tale	Margaret Atwood
4	The Alchemist	Paulo Coelho
5	To Kill a Mockingbird	Harper Lee

5 rows in set (0.00 sec)

```
mysql> SELECT author_name, COUNT(*) AS number_of_books
-> FROM Books
-> GROUP BY author_name
-> ORDER BY author_name;
```

author_name	number_of_books
George R.R. Martin	1
Harper Lee	1
J.R.R. Tolkien	1
Margaret Atwood	1
Paulo Coelho	1

5 rows in set (0.00 sec)