SQL

MODULE

LAB – 6

BY

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SQL_lab6_Anp_c7281_groupBY

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 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.

Solution: -

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> select * from Books;
+---------+-------------------------------------+-----------------------+
| book_id | title                               | author_name           |
+---------+-------------------------------------+-----------------------+
|       1 | The Hitchhiker's Guide to the Galaxy | Douglas Adams         |
|       2 | Pride and Prejudice                 | Jane Austen           |
|       3 | The Great Gatsby                    | F. Scott Fitzgerald   |
|       4 | One Hundred Years of Solitude       | Gabriel Garcia Marquez |
|       5 | Crime and Punishment                | Fyodor Dostoevsky     |
+---------+-------------------------------------+-----------------------+
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 |
+-----------------------+-----------------+
| Douglas Adams         |               1 |
| F. Scott Fitzgerald   |               1 |
| Fyodor Dostoevsky     |               1 |
| Gabriel Garcia Marquez |               1 |
| Jane Austen           |               1 |
+-----------------------+-----------------+
5 rows in set (0.00 sec)
```