

DBMS - Lab Assignment 4

1. Order by Clause

SELECT * FROM Patient ORDER BY P_dob;

The screenshot displays the MySQL Workbench interface. The top toolbar includes icons for file operations, query execution, and window management. The main editor shows a SQL query: `SELECT * FROM Patient ORDER BY P_dob;`. Below the query, the results are displayed in a table with columns: #, P_id, P_first_name, P_last_name, P_dob, P_mobile, P_address, P_insurance, and Doc_id. The results are sorted by P_dob in ascending order. The bottom panel shows the 'Action Output' tab, which lists the execution details of the query, including the time taken and the number of rows returned.

#	P_id	P_first_name	P_last_name	P_dob	P_mobile	P_address	P_insurance	Doc_id
1	10	Kshitiz	Michael	1940-11-01	7740562398	Srinagar	asdfghjkl	104
2	5	Sunil	Ravula	1947-05-27	60155218763	Patna	qwertyuiop	103
3	3	Rajendra	Raj	1958-05-27	6045218763	Hubli	qwertyuiop	103
4	1	Rahul	Raj	1978-05-27	6045218763	Bihar	qwertyuiop	102
5	9	Akash	Kumar	1989-05-27	6045218763	Manali	qwertyuiop	103
6	2	Ramesh	Athe	1999-11-01	7740562398	Delhi	asdfghjkl	101
7	4	Ramesh	Athe	1999-11-01	7740562398	Dharwad	asdfghjkl	104
8	6	Rajesh	Kumar	1999-11-01	7740562398	Delhi	asdfghjkl	104
9	8	Mithil	Anchan	1999-11-01	7740562398	Mumbai	asdfghjkl	104
10	7	Advay	Aggarwal	2018-05-27	6045218763	Ooty	qwertyuiop	103

Query Completed

2. Group by and having

SELECT Doc_id as Doctor_Id, count(P_id) ad NumberOfPatients FROM Patient group by Doc_id;

The screenshot displays the MySQL Workbench interface. The top panel shows the 'Hospital_Database' and 'MySQL Model' tabs. The main editor area contains a SQL query: `SELECT Doc_id as Doctor_Id, count(P_id) as NumberOfPatients FROM Patient group by Doc_id;`. The bottom panel shows the 'Result 9' tab with a table of results. The table has two columns: 'Doctor_Id' and 'NumberOfPatients'. The results are as follows:

#	Doctor_Id	NumberOfPatients
1	101	1
2	102	1
3	103	4
4	104	4

The bottom panel also shows the 'Action Output' tab with a log of actions. The log shows three actions: `SELECT count(P_id) FROM Patient group by Doc_Id LIMIT...`, `SELECT Doc_id, count(P_id) FROM Patient group by Doc_...`, and `SELECT Doc_id as Doctor_Id, count(P_id) as NumberOfP...`. Each action shows the duration and the number of rows returned.

3. Aggregate functions

```
SELECT avg(Doc_salary), Doc_specialization
FROM Doctor
GROUP BY Doc_specialization;
```

The screenshot displays the MySQL Workbench interface. The top toolbar includes icons for file operations, editing, and database management. The main editor window shows a SQL query with line numbers 104 to 119. The query is as follows:

```
104 (6, 'Rajesh','Kumar', '1999-11-01', 7740562398, 'Delhi', 'asdfghjkl', 104),
105 (7, 'Advay','Aggarwal', '2018-05-27', 6045218763, 'Ooty', 'qwertyuiop', 103),
106 (8, 'Mithil','Anchan', '1999-11-01', 7740562398, 'Mumbai', 'asdfghjkl', 104),
107 (9, 'Akash','Kumar', '1989-05-27', 6045218763, 'Manali', 'qwertyuiop', 103),
108 (10, 'Kshitiz','Michael', '1940-11-01', 7740562398, 'Srinagar', 'asdfghjkl', 103);
109
110 SELECT * FROM Patient ORDER BY P_dob;
111
112 SELECT Doc_id as Doctor_Id, count(P_id) as NumberOfPatients FROM Patient group by Doc_id;
113
114 SELECT * From Doctor where
115 Doc_id = (SELECT P.Doc_id, max(P.NumberOfPatients) from (select Doc_id , count(P_id) as NumberOfPatients from Patient group by Doc_id) P);
116
117 SELECT avg(Doc_salary), Doc_specialization
118 FROM Doctor
119 GROUP BY Doc_specialization;
```

Below the query editor, the 'Result Grid' shows the output of the last query. It has 4 columns: '#', 'avg(Doc_salary)', 'Doc_specialization', and an empty column. The data is as follows:

#	avg(Doc_salary)	Doc_specialization	
1	542135.0000	Cardiologist	
2	5441235.0000	Audiologist	
3	542135.0000	ENT	
4	544135.0000	Medicine	

The 'Action Output' pane at the bottom shows the execution log. It includes columns for '#', 'Time', 'Action', 'Message', and 'Duration / Fetch'. The log shows the execution of the query and the resulting 4 rows.

#	Time	Action	Message	Duration / Fetch
36	15:07:53	SELECT * From Doctor where Doc_id in (SELECT P.Doc_id,...	Error Code: 1241. Operand should contain 1 colu...	0.00088 sec
37	15:10:36	SELECT * From Doctor where Doc_id in (SELECT max(P.N...	0 row(s) returned	0.031 sec / 0.00002...
38	18:00:14	select avg(Doc_salary), Doc_specialization from Doctor ...	Error Code: 1064. You have an error in your SQL s...	0.00024 sec
39	18:00:25	select avg(Doc_salary), Doc_specialization from Doctor ...	Error Code: 1140. In aggregated query without G...	0.030 sec
40	18:01:24	SELECT avg(Doc_salary), Doc_specialization from Doctor...	Error Code: 1140. In aggregated query without G...	0.00078 sec
41	18:01:58	SELECT avg(Doc_salary) from Doctor LIMIT 0, 1000	1 row(s) returned	0.00096 sec / 0.000...
42	18:04:20	select avg(Doc_salary), Doc_specialization from Doctor ...	4 row(s) returned	0.0011 sec / 0.0000...

The 'Query Completed' message is displayed at the bottom of the Action Output pane.

4. Logical operators especially with LIKE

```
SELECT * from Patient where P_first_name like 'a%' ;
```

The screenshot shows the MySQL Workbench interface. The top toolbar includes icons for file operations, query execution, and database management. The main editor displays the query: `SELECT * from Patient where P_first_name like 'a%';`. Below the editor, the 'Query Output' tab is active, showing a table with 8 columns: P_id, P_first_name, P_last_name, P_dob, P_mobile, P_address, P_insurance, and Doc_id. The table contains two rows of data. The bottom status bar indicates 'Query Completed'.

#	P_id	P_first_name	P_last_name	P_dob	P_mobile	P_address	P_insurance	Doc_id
1	7	Advay	Aggarwal	2018-05-27	6045218763	Ooty	qwertyuiop	103
2	9	Akash	Kumar	1989-05-27	6045218763	Manali	qwertyuiop	103

Query Output

#	Time	Action	Message	Duration / Fetch
97	14:13:43	SELECT Doc_id From Doctor where Doc_id IN (SELECT P...	Error Code: 1241. Operand should contain 1 colu...	0.029 sec
98	14:16:41	SELECT * from Patient where P_first_name like '%a%' LI...	7 row(s) returned	0.00085 sec / 0.000...
99	14:17:08	SELECT * from Patient where P_first_name like 'a%' LIM...	2 row(s) returned	0.00050 sec / 0.000...

Query Completed