

Note : Create the following dummy table in MySQL Workbench using CREATE FUNCTION-

Sample Table: Employees

EmpID	EmpName	Department	City	Salary	HireDate
101	Rahul Mehta	Sales	Delhi	55000	2020-04-12
102	Priya Sharma	HR	Mumbai	62000	2019-09-25
103	Aman Singh	IT	Bengaluru	72000	2021-03-10
104	Neha Patel	Sales	Delhi	48000	2022-01-14
105	Karan Joshi	Marketing	Pune	45000	2018-07-22
106	Divya Nair	IT	Chennai	81000	2019-12-11
107	Raj Kumar	HR	Delhi	60000	2020-05-28
108	Simran Kaur	Finance	Mumbai	58000	2021-08-03
109	Arjun Reddy	IT	Hyderabad	70000	2022-02-18
110	Anjali Das	Sales	Kolkata	51000	2023-01-15

Question 1 : Show employees working in either the 'IT' or 'HR' departments.

Ans:-

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the database structure. Under the 'employees' schema, there is a table named 'Employees_data' with columns: EmpID, EmpName, Department, City, Salary, and HireDate.
- Query Editor:** Contains the following SQL code:

```
36 #####-----employees working in either the IT or HR departments
37 • select *
38   from Employees_data
39  where Department = 'IT' OR Department = 'HR';
40
41
```
- Result Grid:** Displays the query results in a grid format. The data is as follows:

EmpID	EmpName	Department	City	Salary	HireDate
102	Priya Sharma	HR	Mumbai	62000	2019-09-25
103	Aman Singh	IT	Bengaluru	72000	2021-03-10
106	Divya Nair	IT	Chennai	81000	2019-12-11
107	Raj Kumar	HR	Delhi	60000	2020-05-28
109	Arjun Reddy	IT	Hyderabad	70000	2022-02-18
• NULL	NULL	NULL	NULL	NULL	NULL

- Output:** Shows the execution log:
 - Action Output: 9 12:25:36 selected 'from Employees where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000
 - 10 12:25:51 selected 'from Employees_data where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000'

Message: Error Code: 1146. Table 'employees.employees' doesn't exist. Duration / Fetch: 0.000 sec / 0.000 sec

Question 2 : Retrieve employees whose department is in ‘Sales’, ‘IT’, or ‘Finance’.

Ans:-

The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

```
41 ##-----whose department is in 'Sales', 'IT', or 'Finance'.
42 • select *
43 from Employees_data
44 where Department in ('Sales', 'IT', 'Finance');
45
```

The result grid displays the following data:

EmpID	EmpName	Department	City	Salary	HireDate
101	Rahul Mehta	Sales	Delhi	55000	2020-04-12
103	Aman Singh	IT	Bengaluru	72000	2021-03-10
104	Neha Patel	Sales	Delhi	48000	2022-01-14
106	Divya Nair	IT	Chennai	81000	2019-12-11
108	Simran Kaur	Finance	Mumbai	58000	2021-08-03
109	Arjun Reddy	IT	Hyderabad	70000	2022-02-18
110	Anjali Das	Sales	Kolkata	51000	2023-01-15
•	NULL	NULL	NULL	NULL	NULL

The output pane shows the following log entries:

#	Time	Action	Message	Duration / Fetch
8	12:20:44	select * from Employees_data LIMIT 0, 2000	10 row(s) returned	0.000 sec / 0.000 sec
9	12:25:36	select * from Employees where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000	Error Code: 1146. Table 'employees.employees' doesn't exist	0.000 sec
10	12:25:51	select * from Employees_data where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000	5 row(s) returned	0.000 sec / 0.000 sec
11	12:42:17	select * from Employees_data where Department in ('Sales', 'IT', 'Finance') LIMIT 0, 2000	7 row(s) returned	0.000 sec / 0.000 sec

Question 3 : Display employees whose salary is between ₹50,000 and ₹70,000.

Ans:-

The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

```
46
47 ##-----salary between ₹50,000 and ₹70,000
48 • select *
49 from Employees_data
50 where Salary between 50000 and 70000;
51
```

The result grid displays the following data:

EmpID	EmpName	Department	City	Salary	HireDate
101	Rahul Mehta	Sales	Delhi	55000	2020-04-12
102	Priya Sharma	HR	Mumbai	62000	2019-09-25
107	Raj Kumar	HR	Delhi	60000	2020-05-28
108	Simran Kaur	Finance	Mumbai	58000	2021-08-03
109	Arjun Reddy	IT	Hyderabad	70000	2022-02-18
110	Anjali Das	Sales	Kolkata	51000	2023-01-15
•	NULL	NULL	NULL	NULL	NULL

The output pane shows the following log entries:

#	Time	Action	Message	Duration / Fetch
9	12:25:36	select * from Employees where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000	Error Code: 1146. Table 'employees.employees' doesn't exist	0.000 sec
10	12:25:51	select * from Employees_data where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000	5 row(s) returned	0.000 sec / 0.000 sec
11	12:42:17	select * from Employees_data where Department in ('Sales', 'IT', 'Finance') LIMIT 0, 2000	7 row(s) returned	0.000 sec / 0.000 sec
12	12:46:21	select * from Employees_data where Salary between 50000 and 70000 LIMIT 0, 2000	6 row(s) returned	0.000 sec / 0.000 sec

Question 4 : List employees whose names start with the letter 'A'.

Ans:-

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** company_db, employee_db, employees (selected), employees_data, functions, physicswallah, populate_sales, sakila.
- Tables:** employees (selected), employees_data (selected).
- Query Editor:** Query 1 contains the following SQL code:

```
52
53  ##-----names start with letter 'A'
54 • select *
55   from Employees_data
56  where EmpName like 'A%';
```
- Result Grid:** Shows the results of the query, listing employees with names starting with 'A'.

EmpID	EmpName	Department	City	Salary	HireDate
103	Aman Singh	IT	Bengaluru	72000	2021-03-10
109	Arjun Reddy	IT	Hyderabad	70000	2022-02-18
110	Anjali Das	Sales	Kolkata	51000	2023-01-15
•	HULL	HULL	HULL	HULL	HULL
- Action Output:** Shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
10	12:25:51	select * from Employees_data where Department = 'IT' OR Department = 'HR' LIMIT 0, 2000	5 row(s) returned	0.000 sec / 0.000 sec
11	12:42:17	select * from Employees_data where Department in ('Sales', 'IT', 'Finance') LIMIT 0, 2000	7 row(s) returned	0.000 sec / 0.000 sec
12	12:46:21	select * from Employees_data where Salary between 50000 and 70000 LIMIT 0, 2000	6 row(s) returned	0.000 sec / 0.000 sec
13	12:49:14	select * from Employees_data where EmpName like 'A%' LIMIT 0, 2000	3 row(s) returned	0.000 sec / 0.000 sec

Question 5 : Find employees whose names contain the substring 'an'.

Ans:-

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** company_db, employee_db, employees (selected), employees_data, functions, physicswallah, populate_sales, sakila.
- Tables:** employees (selected), employees_data (selected).
- Query Editor:** Query 1 contains the following SQL code:

```
57
58  ##-----names contain substring 'an'
59 • select *
60   from Employees_data
61  where EmpName like '%an%';
```
- Result Grid:** Shows the results of the query, listing employees with names containing 'an'.

EmpID	EmpName	Department	City	Salary	HireDate
103	Aman Singh	IT	Bengaluru	72000	2021-03-10
105	Karan Joshi	Marketing	Pune	45000	2018-07-22
108	Simran Kaur	Finance	Mumbai	58000	2021-08-03
110	Anjali Das	Sales	Kolkata	51000	2023-01-15
•	HULL	HULL	HULL	HULL	HULL
- Action Output:** Shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
12	12:46:21	select * from Employees_data where Salary between 50000 and 70000 LIMIT 0, 2000	6 row(s) returned	0.000 sec / 0.000 sec
13	12:49:14	select * from Employees_data where EmpName like 'A%' LIMIT 0, 2000	3 row(s) returned	0.000 sec / 0.000 sec
14	12:52:55	select * from Employees where EmpName like '%an%' LIMIT 0, 2000	Error Code: 1146. Table 'employees.employees' doesn't exist	0.000 sec
15	12:53:09	select * from Employees_data where EmpName like '%an%' LIMIT 0, 2000	4 row(s) returned	0.000 sec / 0.000 sec

Question 6 : Show employees who are from ‘Delhi’ or ‘Mumbai’ and earn more than ₹55,000.

Ans:-

The screenshot shows the MySQL Workbench interface with the following details:

- Query Editor:** Contains the following SQL code:

```
63 #####from 'Delhi' or 'Mumbai' and earn more than ₹55,000
64 • select *
65   from Employees_data
66  where City in ('Delhi', 'Mumbai')
67    and Salary > 55000;
68
```
- Result Grid:** Displays the results of the query, showing three rows of employee data:| EmpID | EmpName | Department | City | Salary | HireDate |
| --- | --- | --- | --- | --- | --- |
| 102 | Priya Sharma | HR | Mumbai | 62000 | 2019-09-25 |
| 107 | Raj Kumar | HR | Delhi | 60000 | 2020-05-28 |
| 108 | Simran Kaur | Finance | Mumbai | 58000 | 2021-08-03 |
| NULL | NULL | NULL | NULL | NULL | NULL |
- Action Output:** Shows the history of actions taken in the session, including the execution of the query and its results.

Question 7 : Display all employees except those from the ‘HR’ department.

Ans:-

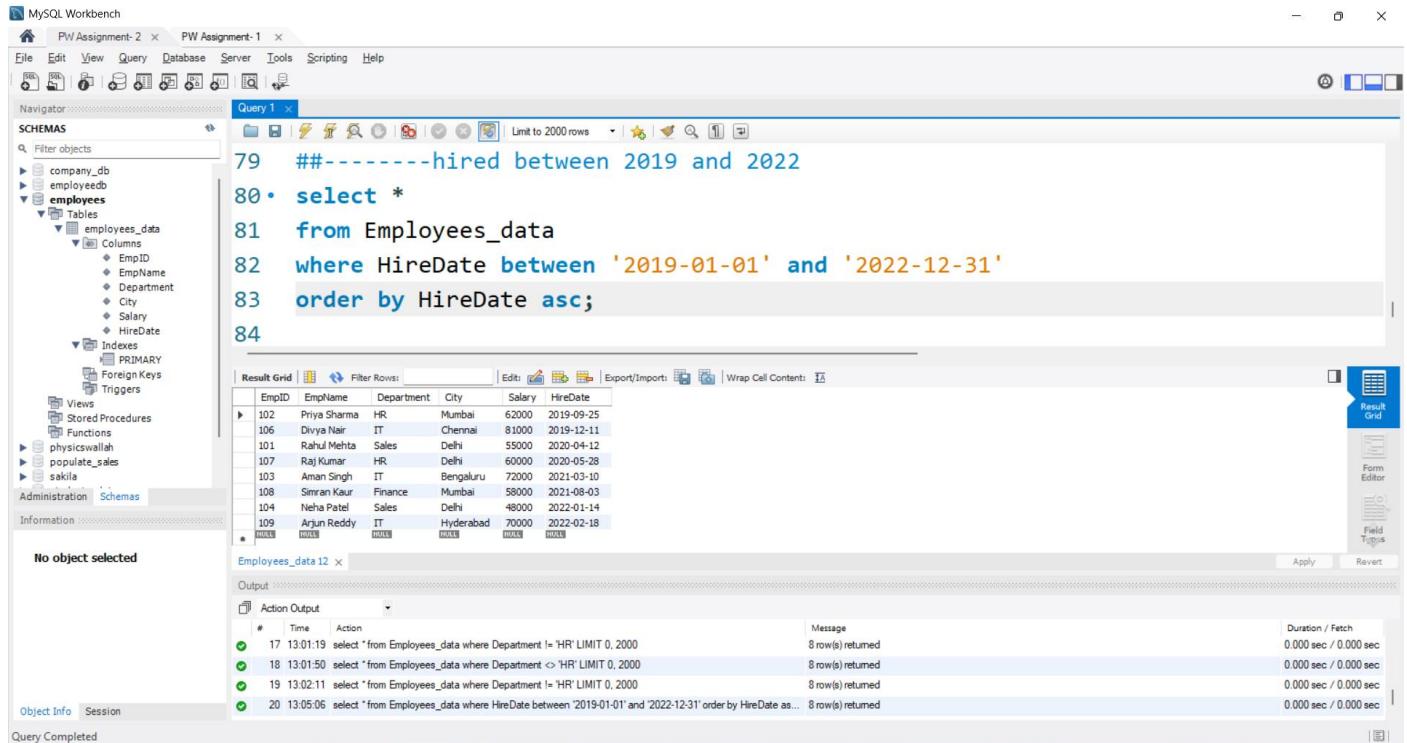
The screenshot shows the MySQL Workbench interface with the following details:

- Query Editor:** Contains the following SQL code:

```
68
69 #####employees except HR department
70 • select *
71   from Employees_data
72  where Department != 'HR';
73
```
- Result Grid:** Displays the results of the query, showing 11 rows of employee data from various departments:| EmpID | EmpName | Department | City | Salary | HireDate |
| --- | --- | --- | --- | --- | --- |
| 101 | Rahul Mehta | Sales | Delhi | 55000 | 2020-04-12 |
| 103 | Aman Singh | IT | Bengaluru | 72000 | 2021-03-10 |
| 104 | Neha Patel | Sales | Delhi | 48000 | 2022-01-14 |
| 105 | Karan Joshi | Marketing | Pune | 45000 | 2018-07-22 |
| 106 | Divya Nair | IT | Chennai | 81000 | 2019-12-11 |
| 108 | Simran Kaur | Finance | Mumbai | 58000 | 2021-08-03 |
| 109 | Arjun Reddy | IT | Hyderabad | 70000 | 2022-02-18 |
| 110 | Anjali Das | Sales | Kolkata | 51000 | 2023-01-15 |
| NULL | NULL | NULL | NULL | NULL | NULL |
- Action Output:** Shows the history of actions taken in the session, including the execution of the query and its results.

Question 8 : Get all employees hired between 2019 and 2022, ordered by HireDate (oldest first).

Ans:-



The screenshot shows the MySQL Workbench interface with a query editor and results grid.

Query Editor:

```
79 ##-----hired between 2019 and 2022
80 • select *
81   from Employees_data
82   where HireDate between '2019-01-01' and '2022-12-31'
83   order by HireDate asc;
84
```

Result Grid:

EmpID	EmpName	Department	City	Salary	HireDate
102	Priya Sharma	HR	Mumbai	62000	2019-09-25
106	Divya Nair	IT	Chennai	81000	2019-12-11
101	Rahul Mehta	Sales	Delhi	55000	2020-04-12
107	Raj Kumar	HR	Delhi	60000	2020-05-28
103	Aman Singh	IT	Bengaluru	72000	2021-03-10
108	Simran Kaur	Finance	Mumbai	58000	2021-08-03
104	Neha Patel	Sales	Delhi	48000	2022-01-14
109	Arjun Reddy	IT	Hyderabad	70000	2022-02-18
NULL	NULL	NULL	NULL	NULL	NULL

Action Output:

#	Time	Action	Message	Duration / Fetch
17	13:01:19	select * from Employees_data where Department != 'HR' LIMIT 0, 2000	8 row(s) returned	0.000 sec / 0.000 sec
18	13:01:50	select * from Employees_data where Department <> 'HR' LIMIT 0, 2000	8 row(s) returned	0.000 sec / 0.000 sec
19	13:02:11	select * from Employees_data where Department != 'HR' LIMIT 0, 2000	8 row(s) returned	0.000 sec / 0.000 sec
20	13:05:06	select * from Employees_data where HireDate between '2019-01-01' and '2022-12-31' order by HireDate as...	8 row(s) returned	0.000 sec / 0.000 sec