

QUESTION 1

Retrieve the names of employees who earn more than the average salary of all employees

ANSWER

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

- SQL Editor:** Contains the following SQL query:

```
82 where salary >(
83     select avg(salary)
84     from EMPLOYEE);
85
86 •     SELECT name
87     FROM employee
88     WHERE salary > (
89         SELECT AVG(salary)
90         FROM employee
91     );
92
93
94
```
- Result Grid:** Displays the names of employees whose salary is greater than the average:

name
Priya
Neha
Sneha
Kiran
Tanuja
- Session Output:** Shows the execution log:

#	Time	Action	Message	Duration / Fetch
84	22:10:54	SELECT emp_id FROM emp_id WHERE salary > (SELECT AVG(salary) FROM employee)	Error Code: 1146. Table 'employee.emp_id' doesn't exist	0.000 sec
85	22:11:42	SELECT name FROM emp_id WHERE salary > (SELECT AVG(salary) FROM employee)	Error Code: 1146. Table 'employee.emp_id' doesn't exist	0.000 sec
86	22:12:13	SELECT name FROM employee WHERE salary > (SELECT AVG(salary) FROM employee)	5 row(s) returned	0.000 sec / 0.000 sec

QUESTION 2

Find the employees who belong to the department with the highest average salary.

ANSWER

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

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (college, company_db, company_md, db_name, employee), Tables (department, employee, sales), Views, Stored Procedures.
- SQL Editor:** SQL File 3* (employee, department, sales). The code is:

```
89
90    ## question 2 Find the employees who belong to the department with the highest average salary.
91
92 •  SELECT name, DEPARTMENT_ID, SALARY
93   FROM employee
94   WHERE department_id = (
95       SELECT DEPARTMENT_ID
96       FROM employee
97       GROUP BY department_id
98       ORDER BY AVG(salary) DESC
99       LIMIT 1
100 );
```
- Result Grid:** Shows the result of the query:

name	DEPARTMENT_ID	SALARY
Ravi	D04	60000
Sneha	D04	75000
- Output:** Action Output pane showing log entries:
 - # 125 12:04:50 SELECT name, DEPARTMENT_ID, SALARY FROM employee WHERE department_id = (SELECT DEPAR... Error Code: 1054. Unknown column 'department' in 'where clause'
 - # 126 12:05:27 SELECT name, DEPARTMENT_ID, SALARY FROM employee WHERE department_id = (SELECT DEP... Error Code: 1054. Unknown column 'department' in 'group statement'
 - # 127 12:05:39 SELECT name, DEPARTMENT_ID, SALARY FROM employee WHERE department_id = (SELECT DEP... 2 row(s) returned

QUESTION 3**List all employees who have made at least one sale****ANSWER**

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

- File Menu:** File, Edi, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Standard MySQL Workbench toolbar icons.
- Navigator:** Shows the database structure:
 - Schemas: college, company_db, company_md, db_name, employee.
 - Tables under employee: department, employee, sales.
 - Columns, Indexes, Foreign Keys, Triggers for each table.
- SQL Editor:** SQL File 3* tab, containing the following code:

```
99      LIMIT 1
100  );
101
102  ##QUESTION 3
103
104 •  SELECT DISTINCT e. emp_id, e. NAME
105   FROM employee e
106  JOIN sales s ON e. emp_id = s. emp_id;
107
108
```
- Result Grid:** Shows the results of the query:

emp_id	NAME
101	Abhishek
102	Shubham
103	Priya
104	Rohit
105	Neha
106	Aman
107	Ravi
108	Sneha
109	Kiran
110	Tanuja
- Output:** Action Output pane showing the execution log:

#	Time	Action	Message	Duration / Fetch
130	12:09:55	SELECT DISTINCT e.emp_id, e.emp_name FROM employee e JOIN sales s ON e.emp_id = s.emp_id	Error Code: 1054. Unknown column 'e.emp_name' in field list'	0.000 sec
131	12:10:11	SELECT DISTINCT e.emp_id, e.emp_name FROM employee e JOIN sales s ON e.emp_id = s.emp_id	Error Code: 1054. Unknown column 'e.emp_name' in field list'	0.000 sec
132	12:10:49	SELECT DISTINCT e.emp_id, e.NAME FROM employee e JOIN sales s ON e.emp_id = s.emp_id	10 row(s) returned	0.000 sec / 0.000 sec

QUESTION 4

Find the employee with the highest sale amount.

ANSWER

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

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (college, company_db, company_md, db_name, employee), Tables (department, employee, sales).
- SQL Editor:** SQL File 3* (Query Editor). The code is:

```
105 FROM employee e
106 JOIN sales s ON e.emp_id = s.emp_id;
107
108 ## question 4
109 • SELECT e.emp_id, e.name, s.sale_amount AS highest_sale
110 FROM employee e
111 JOIN sales s ON e.emp_id = s.emp_id
112 ORDER BY s.sale_amount DESC
113 LIMIT 1;
```
- Result Grid:** A table showing the result of the query:

emp_id	name	highest_sale
104	Rohit	12000
- Output:** Action Output window showing log entries:

#	Time	Action	Message	Duration / Fetch
133	12:20:47	SELECT e.emp_id, e.name, s.amount AS highest_sale FROM employee e JOIN sales s ON e.emp_id = s.em...	Error Code: 1054. Unknown column 's.amount' in field list'	0.000 sec
134	12:21:23	SELECT e.emp_id, e.name, s.sale_amount AS highest_sale FROM employee e JOIN sales s ON e.emp_id = ...	Error Code: 1054. Unknown column 's.amount' in 'order clause'	0.000 sec
135	12:21:52	SELECT e.emp_id, e.name, s.sale_amount AS highest_sale FROM employee e JOIN sales s ON e.emp_id = ...	1 row(s) returned	0.000 sec / 0.000 sec

QUESTION 5

Retrieve the names of employees whose salaries are higher than Shubham's salary.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** table selected. The **employee** table has columns: EMP_ID (int), NAME (varchar(50)), DEPARTMENT_ID (char(20)), and SALARY (int).
- SQL Editor:** Contains the following SQL query:

```
115  ## question 5 Retrieve the names of employees whose salaries are higher than Shubham's salary.
116
117 • SELECT name
118   FROM employee
119  WHERE salary > (
120    SELECT salary
121     FROM employee
122    WHERE name = 'Shubham'
123 );
```
- Result Grid:** Displays the names of employees whose salaries are higher than Shubham's salary. The results are:

name
Abhishek
Priya
Rohit
Neha
Ravi
Sneha
Kran
Tanuja
- Output:** Shows the execution log with three entries:

#	Time	Action	Message	Duration / Fetch
134	12:21:23	SELECT e.emp_id, e.name, s.sale_amount AS highest_sale FROM employee e JOIN sales s ON e.emp_id = ...	Error Code: 1054. Unknown column 's.amount' in 'order clause'	0.000 sec
135	12:21:52	SELECT e.emp_id, e.name, s.sale_amount AS highest_sale FROM employee e JOIN sales s ON e.emp_id = ...	1 row(s) returned	0.000 sec / 0.000 sec
136	12:41:36	SELECT name FROM employee WHERE salary > (SELECT salary FROM employee WHERE name ...)	8 row(s) returned	0.000 sec / 0.000 sec

Intermediate Level

QUESTION 6

Find employees who work in the same department as Abhishek.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** table selected. The **department** table under **employee** is expanded, showing columns: **DEPARTMENT_ID**, **DEPARTMENT_NAME**, and **LOCATION**.
- SQL Editor:** Contains the following SQL code:

```
124
125  ## question 6 Find employees who work in the same department as Abhishek.
126 • SELECT name
127   FROM employee
128   WHERE department_id = (
129       SELECT department_id
130     FROM employee
131    WHERE name = 'Abhishek'
132 );
```
- Result Grid:** Displays the results of the query, showing two rows:

name
Abhishek
Shubham
- Object Info:** Shows the structure of the **employee** table:

Columns:
EMP_ID int
NAME varchar(50)
DEPARTMENT_ID char(20)
SALARY int
- Action Output:** Shows the log of actions taken:

#	Time	Action	Message	Duration / Fetch
137	13:03:08	SELECT name FROM employee WHERE department = (SELECT department FROM employee ... Error Code: 1054. Unknown column 'department' in 'where clause'	0.000 sec
138	13:03:45	SELECT name FROM employee WHERE department_id = (SELECT department FROM employee ... Error Code: 1054. Unknown column 'department' in field list'	0.000 sec
139	13:03:56	SELECT name FROM employee WHERE department_id = (SELECT department_id FROM employee ... 2 row(s) returned	0.000 sec / 0.000 sec

QUESTION 7

List departments that have at least one employee earning more than ₹60,000.

ANSWER

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

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

```
130     FROM employee
131     WHERE name = 'Abhishek'
132   );
133
134  ## question 7 List departments that have at least one employee earning more than ₹60,000.
135 •  SELECT DISTINCT department_id, name
136   FROM employee
137   WHERE salary > 60000;
138
```
- Result Grid:** Displays the results of the query:

department_id	name
D01	Abhishek
D02	Priya
D02	Rohit
D03	Neha
D04	Sneha
D05	Kiran
D05	Tanuja
- Output Pane:** Shows the execution log:

#	Time	Action	Message	Duration / Fetch
140	13:06:35	SELECT DISTINCT department FROM employee WHERE salary > 60000	Error Code: 1054. Unknown column 'department' in field list'	0.000 sec
141	13:06:44	SELECT DISTINCT department_id FROM employee WHERE salary > 60000	5 row(s) returned	0.000 sec / 0.000 sec
142	13:07:47	SELECT DISTINCT department_id, name FROM employee WHERE salary > 60000	7 row(s) returned	0.000 sec / 0.000 sec

QUESTION 8**Find the department name of the employee who made the highest sale****ANSWER**

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

- Navigator:** Shows the database schema with the **employee** schema expanded, revealing tables like **department** and **sales**.
- SQL Editor:** Contains the following SQL query:

```
137 WHERE salary > 60000;
138
139 ## question 7 Find the department name of the employee who made the highest sales
140 • SELECT e.department_id, name, sale_amount
141 FROM employee e
142 JOIN sales s ON e.emp_id = s.emp_id
143 ORDER BY s.SALE_AMOUNT DESC
144 LIMIT 1;
```
- Result Grid:** Displays the results of the query, showing one row:

department_id	name	sale_amount
D02	Rohit	12000
- Output:** Shows the log of actions taken:

#	Time	Action	Message	Duration / Fetch
149	13:12:48	SELECT e.department_id, name FROM employee e JOIN sales s ON e.emp_id = s.emp_id ORDER BY s.SA...	1 row(s) returned	0.000 sec / 0.000 sec
150	13:16:53	SELECT e.department_id, name, sales_amount FROM employee e JOIN sales s ON e.emp_id = s.emp_id O...	Error Code: 1054. Unknown column 'sales_amount' in field list'	0.000 sec
151	13:17:13	SELECT e.department_id, name, sale_amount FROM employee e JOIN sales s ON e.emp_id = s.emp_id OR...	1 row(s) returned	0.016 sec / 0.000 sec

QUESTION 9

Retrieve employees who have made sales greater than the average sale amount.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** table selected. The **Tables** section under **employee** lists **department**, **sales**, and **Views**.
- SQL Editor:** Contains the following SQL query:

```
143 ORDER BY s.SALE_AMOUNT DESC
144 LIMIT 1;
145
146 ## question 9 Retrieve employees who have made sales greater than the average sale amount.
147
148 • SELECT DISTINCT e.emp_id, e.name
149   FROM employee e
150   JOIN sales s ON e.emp_id = s.emp_id
151   WHERE s.SALE_AMOUNT > (
152     SELECT AVG(SALE_AMOUNT)
153     FROM sales
154   );
155
```
- Result Grid:** Displays the results of the query, showing employee IDs and names:

emp_id	name
102	Shubham
104	Rohit
105	Neha
106	Aman
110	Tanuja
- Output:** Shows the execution log with three entries:

#	Time	Action	Message	Duration / Fetch
151	13:17:13	SELECT e.department_id, name, sale_amount FROM employee e JOIN sales s ON e.emp_id = s.emp_id OR... 1 row(s) returned		0.016 sec / 0.000 sec
152	13:22:40	SELECT DISTINCT e.emp_id, e.name FROM employee e JOIN sales s ON e.emp_id = s.emp_id WHERE s.... Error Code: 1054. Unknown column 'amount' in field list'		0.000 sec
153	13:23:55	SELECT DISTINCT e.emp_id, e.name FROM employee e JOIN sales s ON e.emp_id = s.emp_id WHERE s.... 5 row(s) returned		0.000 sec / 0.000 sec

QUESTION 10

Find the total sales made by employees who earn more than the average salary.

ANSWER

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

- Navigator:** Shows the database schema with tables: college, company_db, company_md, db_name, employee, department, and sales.
- SQL Editor:** Contains the following SQL query:

```
153     FROM sales
154   );
155
156  ## question 10 Find the total sales made by employees who earn more than the average salary.
157
158 •  SELECT SUM(s.SALE_AMOUNT) AS total_sales
159   FROM employee e
160   JOIN sales s ON e.emp_id = s.emp_id
161   WHERE e.salary > (
162     SELECT AVG(salary)
163     FROM employee
164   );
165
```
- Result Grid:** Displays the result of the query: **total_sales** with a value of **32700**.
- Action Output:** Shows the log of actions taken:

#	Time	Action	Message	Duration / Fetch
157	13:27:54	SELECT SUM(s.amount) AS total_sales FROM employee e JOIN sales s ON e.emp_id = s.emp_id WHERE ...	Error Code: 1054. Unknown column 's.amount' in field list'	0.000 sec
158	13:29:37	SELECT SUM(s.SALE_AMOUNT) AS total_sales FROM employee e JOIN sales s ON e.emp_id = s.emp_id ...	1 row(s) returned	0.000 sec / 0.000 sec
159	13:29:38	SELECT SUM(s.SALE_AMOUNT) AS total_sales FROM employee e JOIN sales s ON e.emp_id = s.emp_id ...	1 row(s) returned	0.000 sec / 0.000 sec

Advanced Level

QUESTION 11

Find employees who have not made any sales.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** table selected. The **employee** table has columns: EMP_ID, NAME, DEPARTMENT_ID, and SALARY.
- SQL Editor:** Displays the following SQL query:

```
170 WHERE s.emp_id IS NULL;
171
172 • SELECT e.emp_id, e.name
173   FROM employee e
174   WHERE NOT EXISTS (
175     SELECT 1
176     FROM sales s
177     WHERE s.emp_id = e.emp_id
178   );
179
180
181
182
```
- Result Grid:** Shows the results of the query, displaying two columns: emp_id and name. The results are currently empty.
- Action Output:** Shows the log of actions taken:

#	Time	Action	Message	Duration / Fetch
168	13:51:40	SELECT e.emp_id, e.name FROM employee e WHERE NOT EXISTS (SELECT 1 FROM sale_amount ... Error Code: 1146. Table 'employee.sale_amount' doesn't exist	0.015 sec
169	13:52:29	SELECT e.emp_id, e.name FROM employee e WHERE NOT EXISTS (SELECT 1 FROM salary s ... Error Code: 1146. Table 'employee.salary' doesn't exist	0.000 sec
170	13:52:42	SELECT e.emp_id, e.name FROM employee e WHERE NOT EXISTS (SELECT 1 FROM sales s W... 0 row(s) returned	0.015 sec / 0.000 sec

QUESTION 12**List departments where the average salary is above ₹55,000.****ANSWER**

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

- MySQL Workbench Window:** The title bar says "MySQL Workbench" and "pw_skills_DA_Batch".
- File Menu:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Shows the database schema with the "employee" table selected. Under "Tables" for "employee", there are "department" and "sales" tables, along with their respective columns (e.g., EMP_ID, NAME, DEPARTMENT_ID, SALARY).
- SQL Editor:** Contains the following SQL code:

```
174 WHERE s.emp_id = e.emp_id
175 );
176
177 ## QUESTION 12 List departments where the average salary is above ₹55,000.
178 • SELECT department_ID
179   FROM employee
180   GROUP BY department_ID
181   HAVING AVG(salary) > 55000;
182
183
184
185
186
```
- Result Grid:** Displays the results of the query, showing department IDs D01, D02, D03, D04, and D05.
- Action Output:** Shows the execution log with three entries:
 - Line 175: SELECT department_ID FROM employee GROUP BY department_ID HAVING AVG(salary) > 55000. Message: 5 row(s) returned. Duration / Fetch: 0.000 sec / 0.000 sec.
 - Line 176: SELECT department_ID,NAME FROM employee GROUP BY department_ID HAVING AVG(salary) > 55000. Error Code: 1055. Expression #2 of SELECT list is not in GROUP BY clause and contains nonaggregated c... Duration / Fetch: 0.000 sec / 0.000 sec.
 - Line 177: SELECT department_ID FROM employee GROUP BY department_ID HAVING AVG(salary) > 55000. Message: 5 row(s) returned. Duration / Fetch: 0.000 sec / 0.000 sec.

QUESTION 13

Retrieve department names where the total sales exceed ₹10,000.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** table selected. The **Columns** section is expanded, showing columns: EMP_ID, NAME, DEPARTMENT_ID, and SALARY.
- SQL Editor:** Contains the following SQL code:

```
178
179 • SELECT department_ID
180   FROM employee
181   GROUP BY department_ID
182   HAVING AVG(salary) > 55000;
183
184 ## QUESTION 12 Retrieve department names where the total sales exceed ₹10,000.
185 • SELECT e.DEPARTMENT_ID
186   FROM employee e
187   JOIN sales s ON e.emp_id = s.emp_id
188   GROUP BY e.DEPARTMENT_ID
189   HAVING SUM(s.SALE_AMOUNT) > 10000;
190
```
- Result Grid:** Displays the results of the first query, showing department IDs D01, D02, D03, and D05.
- Action Output:** Shows the log of executed queries, all of which completed successfully with 0.000 sec / 0.000 sec duration.

QUESTION 14

Find the employee who has made the second-highest sale.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** schema expanded, revealing tables like **department**, **employee**, and **sales**.
- SQL Editor:** Displays the following SQL code:

```
187 JOIN sales s ON e.emp_id = s.emp_id
188 GROUP BY e .DEPARTMENT_ID
189 HAVING SUM(s.SALE_AMOUNT) > 10000;
190
191 ## QUESTION 13 Find the employee who has made the second-highest sale.
192
193 • SELECT e.emp_id, e.name, s.SALE_AMOUNT AS second_highest_sale
194 FROM employee e
195 JOIN sales s ON e.emp_id = s.emp_id
196 ORDER BY s.SALE_AMOUNT DESC
197 LIMIT 1 OFFSET 1;
198
199
```
- Result Grid:** Shows the output of the query:

emp_id	name	second_highest_sale
106	Aman	10500
- Action Output:** Shows the log of actions taken:

#	Time	Action	Message	Duration / Fetch
194	14:19:12	SELECT e.emp_id, e.name, s.amount AS second_highest_sale FROM employee e JOIN sales s ON e.emp_id = s.emp_id	Error Code: 1054. Unknown column 's.amount' in field list'	0.000 sec
195	14:19:30	SELECT e.emp_id, e.name, s.amount AS second_highest_sale FROM employee e JOIN sales s ON e.emp_id = s.emp_id	Error Code: 1054. Unknown column 's.amount' in field list'	0.000 sec
196	14:19:43	SELECT e.emp_id, e.name, s.SALE_AMOUNT AS second_highest_sale FROM employee e JOIN sales s O...	1 row(s) returned	0.000 sec / 0.000 sec

QUESTION 15

Retrieve the names of employees whose salary is greater than the highest sale amount recorded.

ANSWER

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

- Navigator:** Shows the database schema with the **employee** table selected. The **Columns** section for the employee table is expanded, showing columns: **EMP_ID**, **NAME**, **DEPARTMENT_ID**, and **SALARY**.
- SQL File 3***: Contains the following SQL code:

```
196 ORDER BY s.SALE_AMOUNT DESC
197 LIMIT 1 OFFSET 1;
198
199 ## QUESTION 15 Retrieve the names of employees whose salary is greater than the highest sale amount recorded.
200 • SELECT name
201 FROM employee
202 WHERE salary > (
203     SELECT MAX(SALE_AMOUNT)
204     FROM sales
205 );
```
- Result Grid:** Displays the names of employees whose salary is greater than the highest sale amount recorded. The results are:

name
Abhishek
Shubham
Priya
Rohit
Neha
Aman
Ravi
Sneha
Kran
Tanuja
- Object Info:** Shows information about the **employee** table, including its columns: **EMP_ID** (int), **NAME** (varchar(50)), **DEPARTMENT_ID** (char(20)), and **SALARY** (int).
- Action Output:** Shows the execution history of the queries:

#	Time	Action	Message	Duration / Fetch
196	14:19:43	SELECT e.emp_id, e.name, s.SALE_AMOUNT AS second_highest_sale FROM employee e JOIN sales s ON e.emp_id = s.emp_id ORDER BY s.SALE_AMOUNT DESC LIMIT 1 OFFSET 1;	1 row(s) returned	0.000 sec / 0.000 sec
197	14:22:39	SELECT name FROM employee WHERE salary > (SELECT MAX(amount) FROM sales)	Error Code: 1054. Unknown column 'amount' in field list'	0.000 sec
198	14:23:11	SELECT name FROM employee WHERE salary > (SELECT MAX(SALE_AMOUNT) FROM sales)	10 row(s) returned	0.000 sec / 0.000 sec