**-- List all employees with their full name and hire date.**

select emp\_id,concat(first\_name," ", last\_name)as full\_name, hire\_date from employees;

**Output:**

# emp\_id full\_name hire\_date

1001 Diana Brown 2010-01-31 00:00:00

1002 Alice Smith 2010-02-28 00:00:00

1003 Mike Black 2010-03-31 00:00:00

1004 Charlie Black 2010-04-30 00:00:00

1005 Jane Black 2010-05-31 00:00:00

1006 Mike Johnson 2010-06-30 00:00:00

1007 Charlie Smith 2010-07-31 00:00:00

1008 Alice Black 2010-08-31 00:00:00

1009 Diana Doe 2010-09-30 00:00:00

1010 Eve Black 2010-10-31 00:00:00

**-- Show each employee's department name.**

select e.first\_name , e.last\_name,d.dept\_name from employees as e join dept\_emp as de

on e.emp\_id = de.emp\_id join departments as d on d.dept\_id = de.dept\_id;

**Output:**

# first\_name last\_name dept\_name

Diana Brown Marketing

Alice Smith Marketing

Mike Black Finance

Charlie Black Sales

Jane Black HR

Mike Johnson HR

Charlie Smith HR

Alice Black Sales

Diana Doe HR

Eve Black Finance

**-- Find all employees earning more than ₹90,000.**

select e.first\_name, e.last\_name, s.salary from employees e join salaries s on e.emp\_id= s.emp\_id

where s.salary>90000

order by salary;

**Output:**

# first\_name last\_name salary

Mike Brown 90207

Jane Johnson 92631

Jane Smith 92857

Jane Johnson 93636

Charlie Brown 93651

John Doe 93841

Mike Johnson 93948

Mike Black 94777

Diana Brown 94793

Jane Smith 95322

**-- Count the number of employees in each department.**

SELECT

d.dept\_name,

COUNT(e.emp\_id) AS employee\_count

FROM

departments AS d

JOIN

dept\_emp AS de ON d.dept\_id = de.dept\_id

JOIN

employees AS e ON e.emp\_id = de.emp\_id

GROUP BY

d.dept\_name;

**Output:**

# dept\_name employee\_count

Marketing 17

Finance 19

Sales 19

HR 28

Engineering 17

**-- Show the average salary per department.**

select dept\_name, Round(avg(salary),2)as Avg\_salary from

(SELECT

d.dept\_name,

s.salary

FROM

departments AS d

JOIN

dept\_emp AS de ON d.dept\_id = de.dept\_id

JOIN

salaries s ON s.emp\_id = de.emp\_id) as sls

group by dept\_name;

**Output:**

# dept\_name Avg\_salary

Marketing 85402.18

Finance 82259.74

Sales 77711.26

HR 76212.96

Engineering 85500.29

**-- List employees hired after 2015 and their salary.**

select e.first\_name, e.last\_name , s.salary , e.hire\_date from employees e join salaries s

on e.emp\_id = s.emp\_id where year(e.hire\_date) > 2015;

**Output:**

# first\_name last\_name salary hire\_date

John Smith 84650 2016-01-31 00:00:00

Charlie Black 60305 2016-02-29 00:00:00

Jane Johnson 93636 2016-03-31 00:00:00

Mike Brown 115076 2016-04-30 00:00:00

Eve Doe 118895 2016-05-31 00:00:00

Jane Smith 56556 2016-06-30 00:00:00

Charlie Johnson 101825 2016-07-31 00:00:00

Eve Brown 81893 2016-08-31 00:00:00

Alice Johnson 56986 2016-09-30 00:00:00

Jane Brown 99432 2016-10-31 00:00:00

**-- Find the top 5 highest paid employees and their departments.**

select e.first\_name,e.last\_name ,d.dept\_name,s.salary from employees e join salaries s

on e.emp\_id = s.emp\_id join dept\_emp de on s.emp\_id = de.emp\_id join departments as d

on de.dept\_id = d.dept\_id

order by s.salary desc limit 5;

**Output:**

# first\_name last\_name dept\_name salary

Charlie Black Sales 119820

Eve Doe HR 118895

Diana Black Finance 118873

Charlie Black HR 116951

Bob Johnson Sales 116131

**-- List departments with more than 15 employees.**

select d.dept\_name , count(e.emp\_id) as Emp\_count from departments d join dept\_emp de

on d.dept\_id = de.dept\_id join employees e on de.emp\_id = e.emp\_id

group by d.dept\_name

having emp\_count>15;

**Output:**

# dept\_name Emp\_count

Marketing 17

Finance 19

Sales 19

HR 28

Engineering 17

**-- Find employees whose salary is above the average salary of their department (use subqueries).**

SELECT

e.first\_name,

e.last\_name,

d.dept\_name,

s.salary

FROM

employees e

JOIN

salaries s ON e.emp\_id = s.emp\_id

JOIN

dept\_emp de ON e.emp\_id = de.emp\_id

JOIN

departments d ON de.dept\_id = d.dept\_id

JOIN (

SELECT

d.dept\_id,

ROUND(AVG(s.salary), 2) AS avg\_salary

FROM

departments d

JOIN

dept\_emp de ON d.dept\_id = de.dept\_id

JOIN

salaries s ON de.emp\_id = s.emp\_id

GROUP BY

d.dept\_id

) AS dept\_avg ON dept\_avg.dept\_id = d.dept\_id

WHERE

s.salary > dept\_avg.avg\_salary;

**Output:**

# first\_name last\_name dept\_name salary

Diana Brown Marketing 111955

Charlie Black Sales 119820

Jane Black HR 78069

Mike Johnson HR 105614

Charlie Smith HR 85516

Eve Black Finance 96899

Diana Doe Sales 95368

Jane Johnson HR 92631

Mike Johnson Engineering 93948

Charlie Doe HR 105390

**-- Show departments and their total payroll .**

SELECT

d.dept\_name,

SUM(s.salary) AS total\_payroll

FROM

departments d

JOIN

dept\_emp de ON d.dept\_id = de.dept\_id

JOIN

salaries s ON de.emp\_id = s.emp\_id

GROUP BY

d.dept\_name

ORDER BY

total\_payroll DESC;

**Output:**

# dept\_name total\_payroll

HR 2133963

Finance 1562935

Sales 1476514

Engineering 1453505

Marketing 1451837

**-- Get each department's highest paid employee using RANK() or ROW\_NUMBER()**

SELECT

first\_name,

last\_name,

dept\_name,

salary

FROM (

SELECT

e.first\_name,

e.last\_name,

d.dept\_name,

s.salary,

ROW\_NUMBER() OVER (

PARTITION BY d.dept\_name

ORDER BY s.salary DESC

) AS rn

FROM

employees e

JOIN

salaries s ON e.emp\_id = s.emp\_id

JOIN

dept\_emp de ON e.emp\_id = de.emp\_id

JOIN

departments d ON de.dept\_id = d.dept\_id

) AS ranked

WHERE

rn = 1

ORDER BY

dept\_name;

**Output:**

# first\_name last\_name dept\_name salary

Mike Brown Engineering 115076

Diana Black Finance 118873

Eve Doe HR 118895

Diana Brown Marketing 111955

Charlie Black Sales 119820