

## SQL Queries

Create the following Tables:

LOCATION	
Location_ID	Regional_Group
122	NEW YORK
123	DALLAS
124	CHICAGO
167	BOSTON

DEPARTMENT		
Department_ID	Name	Location_ID
10	ACCOUNTING	122
20	RESEARCH	124
30	SALES	123
40	OPERATIONS	167

JOB	
Job_ID	Function
667	CLERK
668	STAFF
669	ANALYST
670	SALESPERSON
671	MANAGER
672	PRESIDENT

EMPLOYEE									
EMPL OYEE _ID	LAST_N AME	FIRST _NAM E	MID DLE _NA ME	JOB_I D	MANA GER_I D	HIRED ATE	SALAR Y	COMM	DEPA RTME NT_ID
7369	SMITH	JOHN	Q	667	7902	17- DEC- 84	800	NULL	20
7499	ALLEN	KEVIN	J	670	7698	20- FEB- 85	1600	300	30
7505	DOYLE	JEAN	K	671	7839	04- APR- 85	2850	NULL	30
7506	DENNIS	LYNN	S	671	7839	15- MAY- 85	2750	NULL	30
7507	BAKER	LESLI	D	671	7839	10-	2200	NULL	40

		E				JUN-85			
7521	WARK	CYNT HIA	D	670	7698	22- FEB-85	1250	500	30

### Queries based on the above tables:

#### Simple Queries:

1. List all the employee details
2. List all the department details
3. List all job details
4. List all the locations
5. List out first name,last name,salary, commission for all employees
6. List out employee\_id,last name,department id for all employees and rename employee id as "ID of the employee", last name as "Name of the employee", department id as "department ID"
7. List out the employees annual salary with their names only.

#### Where Conditions:

8. List the details about "SMITH"
9. List out the employees who are working in department 20
10. List out the employees who are earning salary between 3000 and 4500
11. List out the employees who are working in department 10 or 20
12. Find out the employees who are not working in department 10 or 30
13. List out the employees whose name starts with "S"
14. List out the employees whose name start with "S" and end with "H"
15. List out the employees whose name length is 4 and start with "S"
16. List out the employees who are working in department 10 and draw the salaries more than 3500
17. list out the employees who are not receiving commission.

#### Order By Clause:

18. List out the employee id, last name in ascending order based on the employee id.
19. List out the employee id, name in descending order based on salary column
20. list out the employee details according to their last\_name in ascending order and salaries in descending order
21. list out the employee details according to their last\_name in ascending order and then on department\_id in descending order.

#### Group By & Having Clause:

22. How many employees who are working in different departments wise in the organization



23. List out the department wise maximum salary, minimum salary, average salary of the employees
24. List out the job wise maximum salary, minimum salary, average salaries of the employees.
25. List out the no.of employees joined in every month in ascending order.
26. List out the no.of employees for each month and year, in the ascending order based on the year, month.
27. List out the department id having atleast four employees.
28. How many employees in January month.
29. How many employees who are joined in January or September month.
30. How many employees who are joined in 1985.
31. How many employees joined each month in 1985.
32. How many employees who are joined in March 1985.
33. Which is the department id, having greater than or equal to 3 employees joined in April 1985.

### **Sub-Queries**

34. Display the employee who got the maximum salary.
35. Display the employees who are working in Sales department
36. Display the employees who are working as "Clerk".
37. Display the employees who are working in "New York"
38. Find out no.of employees working in "Sales" department.
39. Update the employees salaries, who are working as Clerk on the basis of 10%.
40. Delete the employees who are working in accounting department.
41. Display the second highest salary drawing employee details.
42. Display the Nth highest salary drawing employee details

### **Sub-Query operators: (ALL,ANY,SOME,EXISTS)**

43. List out the employees who earn more than every employee in department 30.
44. List out the employees who earn more than the lowest salary in department 30.
45. Find out whose department has not employees.
46. Find out which department does not have any employees.

### **Co-Related Sub Queries:**

47. Find out the employees who earn greater than the average salary for their department.

### **Joins**

#### **Simple join**

48. List our employees with their department names
49. Display employees with their designations (jobs)

- 50. Display the employees with their department name and regional groups.
- 51. How many employees who are working in different departments and display with department name.
- 52. How many employees who are working in sales department.
- 53. Which is the department having greater than or equal to 5 employees and display the department names in ascending order.
- 54. How many jobs in the organization with designations.
- 55. How many employees working in "New York".

**Non – Equi Join:**

- 56. Display employee details with salary grades.
- 57. List out the no. of employees on grade wise.
- 58. Display the employ salary grades and no. of employees between 2000 to 5000 range of salary.

**Self Join:**

- 59. Display the employee details with their manager names.
- 60. Display the employee details who earn more than their managers salaries.
- 61. Show the no. of employees working under every manager.

**Outer Join:**

- 61. Display employee details with all departments.
- 62. Display all employees in sales or operation departments.

**Set Operators:**

- 63. List out the distinct jobs in Sales and Accounting Departments.
- 64. List out the ALL jobs in Sales and Accounting Departments.
- 65. List out the common jobs in Research and Accounting Departments in ascending order.



## Answers

1. SQL > Select \* from employee;
2. SQL > Select \* from department;
3. SQL > Select \* from job;
4. SQL > Select \* from loc;
5. SQL > Select first\_name, last\_name, salary, commission from employee;
6. SQL > Select employee\_id "id of the employee", last\_name "name", department\_id as "department id" from employee;
7. SQL > Select last\_name, salary\*12 "annual salary" from employee
8. SQL > Select \* from employee where last\_name='SMITH';
9. SQL > Select \* from employee where department\_id=20
10. SQL > Select \* from employee where salary between 3000 and 4500
11. SQL > Select \* from employee where department\_id in (20,30)
12. SQL > Select last\_name, salary, commission, department\_id from employee where department\_id not in (10,30)
13. SQL > Select \* from employee where last\_name like 'S%'
14. SQL > Select \* from employee where last\_name like 'S%H'
15. SQL > Select \* from employee where last\_name like 'S\_\_'
16. SQL > Select \* from employee where department\_id=10 and salary>3500
17. SQL > Select \* from employee where commission is Null
18. SQL > Select employee\_id, last\_name from employee order by employee\_id
19. SQL > Select employee\_id, last\_name, salary from employee order by salary desc  
*⇒ descending order*
20. SQL > Select employee\_id, last\_name, salary from employee order by last\_name, salary desc
21. SQL > Select employee\_id, last\_name, salary from employee order by last\_name, department\_id desc
22. SQL > Select department\_id, count(\*), from employee group by department\_id
23. SQL > Select department\_id, count(\*), max(salary), min(salary), avg(salary) from employee group by department\_id
24. SQL > Select job\_id, count(\*), max(salary), min(salary), avg(salary) from employee group by job\_id
- ✓ 25. SQL > Select to\_char(hire\_date,'month') month, count(\*) from employee group by to\_char(hire\_date,'month') order by month
26. SQL > Select to\_char(hire\_date,'yyyy') Year, to\_char(hire\_date,'mon') Month, count(\*) "No. of employees" from employee group by to\_char(hire\_date,'yyyy'), to\_char(hire\_date,'mon')

- ✓ 27. SQL > Select department\_id, count(\*) from employee group by department\_id having count(\*) >= 4
28. SQL > Select to\_char(hire\_date, 'mon') month, count(\*) from employee group by to\_char(hire\_date, 'mon') having to\_char(hire\_date, 'mon') = 'jan'
29. SQL > Select to\_char(hire\_date, 'mon') month, count(\*) from employee group by to\_char(hire\_date, 'mon') having to\_char(hire\_date, 'mon') in ('jan', 'sep')
30. SQL > Select to\_char(hire\_date, 'yyyy') Year, count(\*) from employee group by to\_char(hire\_date, 'yyyy') having to\_char(hire\_date, 'yyyy') = 1985
31. SQL > Select to\_char(hire\_date, 'yyyy') Year, to\_char(hire\_date, 'mon') Month, count(\*) "No. of employees" from employee where to\_char(hire\_date, 'yyyy') = 1985 group by to\_char(hire\_date, 'yyyy'), to\_char(hire\_date, 'mon')
32. SQL > Select to\_char(hire\_date, 'yyyy') Year, to\_char(hire\_date, 'mon') Month, count(\*) "No. of employees" from employee where to\_char(hire\_date, 'yyyy') = 1985 and to\_char(hire\_date, 'mon') = 'mar' group by to\_char(hire\_date, 'yyyy'), to\_char(hire\_date, 'mon')
33. SQL > Select department\_id, count(\*) "No. of employees" from employee where to\_char(hire\_date, 'yyyy') = 1985 and to\_char(hire\_date, 'mon') = 'apr' group by to\_char(hire\_date, 'yyyy'), to\_char(hire\_date, 'mon'), department\_id having count(\*) >= 3
34. SQL > Select \* from employee where salary = (select max(salary) from employee)
35. SQL > Select \* from employee where department\_id IN (select department\_id from department where name = 'SALES')
36. SQL > Select \* from employee where job\_id in (select job\_id from job where function = 'CLERK')
37. SQL > Select \* from employee where department\_id = (select department\_id from department where location\_id = (select location\_id from location where regional\_group = 'New York'))
38. SQL > Select \* from employee where department\_id = (select department\_id from department where name = 'SALES' group by department\_id)
39. SQL > Update employee set salary = salary \* 10 / 100 where job\_id = (select job\_id from job where function = 'CLERK')
40. SQL > delete from employee where department\_id = (select department\_id from department where name = 'ACCOUNTING')
41. SQL > Select \* from employee where salary = (select max(salary) from employee where salary < (select max(salary) from employee))
42. SQL > Select distinct e.salary from employee where & no-1 = (select count(distinct salary) from employee where sal > e.salary)
43. SQL > Select \* from employee where salary > all (Select salary from employee where department\_id = 30)
44. SQL > Select \* from employee where salary > any (Select salary from employee where department\_id = 30)



45. SQL > Select employee\_id, last\_name, department\_id from employee e where not exists (select department\_id from department d where d.department\_id=e.department\_id)
46. SQL > Select name from department d where not exists (select last\_name from employee e where d.department\_id=e.department\_id)
47. SQL > Select employee\_id, last\_name, salary, department\_id from employee e where salary > (select avg(salary) from employee where department\_id=e.department\_id)
48. SQL > Select employee\_id, last\_name, name from employee e, department d where e.department\_id=d.department\_id
49. SQL > Select employee\_id, last\_name, function from employee e, job j where e.job\_id=j.job\_id
50. SQL > Select employee\_id, last\_name, name, regional\_group from employee e, department d, location l where e.department\_id=d.department\_id and d.location\_id=l.location\_id
51. SQL > Select name, count(\*) from employee e, department d where d.department\_id=e.department\_id group by name
52. SQL > Select name, count(\*) from employee e, department d where d.department\_id=e.department\_id group by name having name='SALES'
53. SQL > Select name, count(\*) from employee e, department d where d.department\_id=e.department\_id group by name having count (\*)>=5 order by name
54. SQL > Select function, count(\*) from employee e, job j where j.job\_id=e.job\_id group by function
55. SQL > Select regional\_group, count(\*) from employee e, department d, location l where e.department\_id=d.department\_id and d.location\_id=l.location\_id and regional\_group='NEW YORK' group by regional\_group
56. SQL > Select employee\_id, last\_name, grade\_id from employee e, salary\_grade s where salary between lower\_bound and upper\_bound order by last\_name
57. SQL > Select grade\_id, count(\*) from employee e, salary\_grade s where salary between lower\_bound and upper\_bound group by grade\_id order by grade\_id desc
58. SQL > Select grade\_id, count(\*) from employee e, salary\_grade s where salary between lower\_bound and upper\_bound and lower\_bound>=2000 and lower\_bound<=5000 group by grade\_id order by grade\_id desc
59. SQL > Select e.last\_name emp\_name, m.last\_name, mgr\_name from employee e, employee m where e.manager\_id=m.employee\_id
60. SQL > Select e.last\_name emp\_name, e.salary emp\_salary, m.last\_name, mgr\_name, m.salary mgr\_salary from employee e, employee m where e.manager\_id=m.employee\_id and m.salary<e.salary
61. SQL > Select m.manager\_id, count(\*) from employee e, employee m where e.employee\_id=m.manager\_id group by m.manager\_id

62. SQL > Select last\_name, d.department\_id, d.name from employee e,  
department d where e.department\_id(+) = d.department\_id
63. SQL > Select last\_name, d.department\_id, d.name from employee e,  
department d where e.department\_id(+) = d.department\_id and  
d.department\_id in (select department\_id from department where name IN  
( 'SALES', 'OPERATIONS' ))
64. SQL > Select function from job where job\_id in (Select job\_id from employee  
where department\_id = (select department\_id from department where  
name = 'SALES')) union Select function from job where job\_id in (Select job\_id  
from employee where department\_id = (select department\_id from department  
where name = 'ACCOUNTING'))
65. SQL > Select function from job where job\_id in (Select job\_id from employee  
where department\_id = (select department\_id from department where  
name = 'SALES')) union all Select function from job where job\_id in (Select  
job\_id from employee where department\_id = (select department\_id from  
department where name = 'ACCOUNTING'))
66. SQL > Select function from job where job\_id in (Select job\_id from employee  
where department\_id = (select department\_id from department where  
name = 'RESEARCH')) intersect Select function from job where job\_id in  
(Select job\_id from employee where department\_id = (select department\_id  
from department where name = 'ACCOUNTING')) order by function