The following is the structure of the tables provided by Oracle in Human Resource Schema (HR).

  
**Note:**Columns in RED color indicate primary key(s).

**Queries**

1. Display details of jobs where the minimum salary is greater than 10000.

SELECT \* FROM JOBS WHERE MIN\_SALARY > 10000

1. Display the first name and join date of the employees who joined between 2002 and 2005.

SELECT FIRST\_NAME, HIRE\_DATE FROM EMPLOYEES

WHERE TO\_CHAR(HIRE\_DATE, 'YYYY') BETWEEN 2002 AND 2005 ORDER BY HIRE\_DATE

1. Display first name and join date of the employees who is either IT Programmer or Sales Man.

SELECT FIRST\_NAME, HIRE\_DATE

FROM EMPLOYEES WHERE JOB\_ID IN ('IT\_PROG', 'SA\_MAN')

1. Display employees who joined after 1st January 2008.

SELECT \* FROM EMPLOYEES where hire\_date > '01-jan-2008'

1. Display details of employee with ID 150 or 160.

SELECT \* FROM EMPLOYEES WHERE EMPLOYEE\_ID in (150,160)

1. Display first name, salary, commission pct, and hire date for employees with salary less than 10000.

SELECT FIRST\_NAME, SALARY, COMMISSION\_PCT, HIRE\_DATE FROM EMPLOYEES WHERE SALARY < 10000

1. Display job Title, the difference between minimum and maximum salaries for jobs with max salary in the range 10000 to 20000.

SELECT JOB\_TITLE, MAX\_SALARY-MIN\_SALARY DIFFERENCE FROM JOBS WHERE MAX\_SALARY BETWEEN 10000 AND 20000

1. Display first name, salary, and round the salary to thousands.

SELECT FIRST\_NAME, SALARY, ROUND(SALARY, -3) FROM EMPLOYEES

1. Display details of jobs in the descending order of the title.

SELECT \* FROM JOBS ORDER BY JOB\_TITLE

1. Display employees where the first name or last name starts with S.

SELECT FIRST\_NAME, LAST\_NAME FROM EMPLOYEES WHERE FIRST\_NAME LIKE 'S%' OR LAST\_NAME LIKE 'S%'

1. Display employees who joined in the month of May.

SELECT \* FROM EMPLOYEES WHERE TO\_CHAR(HIRE\_DATE, 'MON')= 'MAY'

1. Display details of the employees where commission percentage is null and salary in the range 5000 to 10000 and department is 30.

SELECT \* FROM EMPLOYEES WHERE COMMISSION\_PCT IS NULL AND SALARY BETWEEN 5000 AND 10000 AND DEPARTMENT\_ID=30

1. Display first name and date of first salary of the employees.

SELECT FIRST\_NAME, HIRE\_DATE, LAST\_DAY(HIRE\_DATE)+1 FROM EMPLOYEES

1. Display first name and experience of the employees.

SELECT FIRST\_NAME, HIRE\_DATE, FLOOR((SYSDATE-HIRE\_DATE)/365)FROM EMPLOYEES

1. Display first name of employees who joined in 2001.

SELECT FIRST\_NAME, HIRE\_DATE FROM EMPLOYEES WHERE TO\_CHAR(HIRE\_DATE, 'YYYY')=2001

1. Display first name and last name after converting the first letter of each name to upper case and the rest to lower case.

SELECT INITCAP(FIRST\_NAME), INITCAP(LAST\_NAME) FROM EMPLOYEES

1. Display the first word in job title.

SELECT JOB\_TITLE, SUBSTR(JOB\_TITLE,1, INSTR(JOB\_TITLE, ' ')-1) FROM JOBS

1. Display the length of first name for employees where last name contain character ‘b’ after 3rd position.

SELECT FIRST\_NAME, LAST\_NAME FROM EMPLOYEES WHERE INSTR(LAST\_NAME,'B') > 3

1. Display first name in upper case and email address in lower case for employees where the first name and email address are same irrespective of the case.

SELECT UPPER(FIRST\_NAME), LOWER(EMAIL) FROM EMPLOYEES WHERE UPPER(FIRST\_NAME)= UPPER(EMAIL)

1. Display employees who joined in the current year.

SELECT \* FROM EMPLOYEES WHERE TO\_CHAR(HIRE\_DATE,'YYYY')=TO\_CHAR(SYSDATE, 'YYYY')

1. Display the number of days between system date and 1st January 2011.

SELECT SYSDATE - to\_date('01-jan-2011') FROM DUAL

1. Display how many employees joined in each month of the current year.

SELECT TO\_CHAR(HIRE\_DATE,'MM'), COUNT (\*) FROM EMPLOYEES

WHERE TO\_CHAR(HIRE\_DATE,'YYYY')= TO\_CHAR(SYSDATE,'YYYY') GROUP BY TO\_CHAR(HIRE\_DATE,'MM')

1. Display manager ID and number of employees managed by the manager.

SELECT MANAGER\_ID, COUNT(\*) FROM EMPLOYEES GROUP BY MANAGER\_ID

1. Display employee ID and the date on which he ended his previous job.

SELECT EMPLOYEE\_ID, MAX(END\_DATE) FROM JOB\_HISTORY GROUP BY EMPLOYEE\_ID

1. Display number of employees joined after 15th of the month.

SELECT COUNT(\*) FROM EMPLOYEES WHERE TO\_CHAR(HIRE\_DATE,'DD') > 15

1. Display the country ID and number of cities we have in the country.

SELECT COUNTRY\_ID, COUNT(\*) FROM LOCATIONS GROUP BY COUNTRY\_ID

1. Display average salary of employees in each department who have commission percentage.

SELECT DEPARTMENT\_ID, AVG(SALARY) FROM EMPLOYEES

WHERE COMMISSION\_PCT IS NOT NULL GROUP BY DEPARTMENT\_ID

1. Display job ID, number of employees, sum of salary, and difference between highest salary and lowest salary of the employees of the job.

SELECT JOB\_ID, COUNT(\*), SUM(SALARY), MAX(SALARY)-MIN(SALARY) SALARY FROM EMPLOYEES GROUP BY JOB\_ID

1. Display job ID for jobs with average salary more than 10000.

SELECT JOB\_ID, AVG(SALARY) FROM EMPLOYEES

GROUP BY JOB\_ID

HAVING AVG(SALARY)>10000

1. Display years in which more than 10 employees joined.

SELECT TO\_CHAR(HIRE\_DATE,'YYYY') FROM EMPLOYEES

GROUP BY TO\_CHAR(HIRE\_DATE,'YYYY')

HAVING COUNT(EMPLOYEE\_ID) > 10

1. Display departments in which more than five employees have commission percentage.

SELECT DEPARTMENT\_ID FROM EMPLOYEES

WHERE COMMISSION\_PCT IS NOT NULL

GROUP BY DEPARTMENT\_ID

HAVING COUNT(COMMISSION\_PCT)>5

1. Display employee ID for employees who did more than one job in the past.

SELECT EMPLOYEE\_ID FROM JOB\_HISTORY GROUP BY EMPLOYEE\_ID HAVING COUNT(\*) > 1

1. Display job ID of jobs that were done by more than 3 employees for more than 100 days.

SELECT JOB\_ID FROM JOB\_HISTORY

WHERE END\_DATE-START\_DATE > 100

GROUP BY JOB\_ID

HAVING COUNT(\*)>3

1. Display department ID, year, and Number of employees joined.

SELECT DEPARTMENT\_ID, TO\_CHAR(HIRE\_DATE,'YYYY'), COUNT(EMPLOYEE\_ID)

FROM EMPLOYEES

GROUP BY DEPARTMENT\_ID, TO\_CHAR(HIRE\_DATE, 'YYYY')

ORDER BY DEPARTMENT\_ID

1. Display departments where any manager is managing more than 5 employees.

SELECT DISTINCT DEPARTMENT\_ID

FROM EMPLOYEES

GROUP BY DEPARTMENT\_ID, MANAGER\_ID

HAVING COUNT(EMPLOYEE\_ID) > 5

1. Change salary of employee 115 to 8000 if the existing salary is less than 6000.

UPDATE EMPLOYEES SET SALARY = 8000 WHERE EMPLOYEE\_ID = 115 AND SALARY < 6000

1. Insert a new employee into employees with all the required details.

INSERT INTO EMPLOYEES (EMPLOYEE\_ID, FIRST\_NAME, LAST\_NAME, EMAIL, PHONE\_NUMBER, HIRE\_DATE,JOB\_ID, SALARY, DEPARTMENT\_ID)

VALUES (207, 'ANGELA', 'SNYDER','ANGELA','215 253 4737', SYSDATE, 'SA\_MAN', 12000, 80)

1. Delete department 20.

DELETE FROM DEPARTMENTS WHERE DEPARTMENT\_ID=20

1. Change job ID of employee 110 to IT\_PROG if the employee belongs to department 10 and the existing job ID does not start with IT.

UPDATE EMPLOYEES SET JOB\_ID= 'IT\_PROG'

WHERE EMPLOYEE\_ID=110 AND DEPARTMENT\_ID=10 AND NOT JOB\_ID LIKE 'IT%'

1. Insert a row into departments table with manager ID 120 and location ID in any location ID for city Tokyo.

INSERT INTO DEPARTMENTS (150,'SPORTS',120,1200)

1. Display department name and number of employees in the department.

SELECT DEPARTMENT\_NAME, COUNT(\*) FROM EMPLOYEES NATURAL JOIN DEPARTMENTS GROUP BY DEPARTMENT\_NAME

1. Display job title, employee ID, number of days between ending date and starting date for all jobs in department 30 from job history.

SELECT EMPLOYEE\_ID, JOB\_TITLE, END\_DATE-START\_DATE DAYS

FROM JOB\_HISTORY NATURAL JOIN JOBS

WHERE DEPARTMENT\_ID=30

1. Display department name and manager first name.

SELECT DEPARTMENT\_NAME, FIRST\_NAME FROM DEPARTMENTS D JOIN EMPLOYEES E ON (D.MANAGER\_ID=E.EMPLOYEE\_ID)

1. Display department name, manager name, and city.

SELECT DEPARTMENT\_NAME, FIRST\_NAME, CITY FROM DEPARTMENTS D JOIN EMPLOYEES E ON (D.MANAGER\_ID=E.EMPLOYEE\_ID) JOIN LOCATIONS L USING (LOCATION\_ID)

1. Display country name, city, and department name.

SELECT COUNTRY\_NAME, CITY, DEPARTMENT\_NAME

FROM COUNTRIES JOIN LOCATIONS USING (COUNTRY\_ID)

JOIN DEPARTMENTS USING (LOCATION\_ID)

1. Display job title, department name, employee last name, starting date for all jobs from 2000 to 2005.

SELECT JOB\_TITLE, DEPARTMENT\_NAME, LAST\_NAME, START\_DATE

FROM JOB\_HISTORY JOIN JOBS USING (JOB\_ID) JOIN DEPARTMENTS

USING (DEPARTMENT\_ID) JOIN EMPLOYEES USING (EMPLOYEE\_ID)

WHERE TO\_CHAR(START\_DATE,'YYYY') BETWEEN 2000 AND 2005

1. Display job title and average salary of employees

SELECT JOB\_TITLE, AVG(SALARY) FROM EMPLOYEES

NATURAL JOIN JOBS GROUP BY JOB\_TITLE

1. Display job title, employee name, and the difference between maximum salary for the job and salary of the employee.

SELECT JOB\_TITLE, FIRST\_NAME, MAX\_SALARY-SALARY DIFFERENCE FROM EMPLOYEES NATURAL JOIN JOBS

1. Display last name, job title of employees who have commission percentage and belongs to department 30.

SELECT JOB\_TITLE, FIRST\_NAME, MAX\_SALARY-SALARY DIFFERENCE FROM EMPLOYEES NATURAL JOIN JOBS WHERE DEPARTMENT\_ID = 30

1. Display details of jobs that were done by any employee who is currently drawing more than 15000 of salary.

SELECT JH.\*

FROM JOB\_HISTORY JH JOIN EMPLOYEES E ON (JH.EMPLOYEE\_ID = E.EMPLOYEE\_ID)

WHERE SALARY > 15000

1. Display department name, manager name, and salary of the manager for all managers whose experience is more than 5 years.

SELECT DEPARTMENT\_NAME, FIRST\_NAME, SALARY

FROM DEPARTMENTS D JOIN EMPLOYEES E ON (D.MANAGER\_ID=E.MANAGER\_ID)

WHERE (SYSDATE-HIRE\_DATE) / 365 > 5

1. Display employee name if the employee joined before his manager.

SELECT FIRST\_NAME FROM EMPLOYEES E1 JOIN EMPLOYEES E2 ON (E1.MANAGER\_ID=E2.EMPLOYEE\_ID)

WHERE E1.HIRE\_DATE < E2.HIRE\_DATE

1. Display employee name, job title for the jobs employee did in the past where the job was done less than six months.

SELECT FIRST\_NAME, JOB\_TITLE FROM EMPLOYEES E JOIN JOB\_HISTORY JH ON (JH.EMPLOYEE\_ID = E.EMPLOYEE\_ID) JOIN JOBS J ON( JH.JOB\_ID = J.JOB\_ID)

WHERE MONTHS\_BETWEEN(END\_DATE,START\_DATE) < 6

1. Display employee name and country in which he is working.

SELECT FIRST\_NAME, COUNTRY\_NAME FROM EMPLOYEES JOIN DEPARTMENTS USING(DEPARTMENT\_ID)

JOIN LOCATIONS USING( LOCATION\_ID)

JOIN COUNTRIES USING ( COUNTRY\_ID)

1. Display department name, average salary and number of employees with commission within the department.

SELECT DEPARTMENT\_NAME, AVG(SALARY), COUNT(COMMISSION\_PCT)

FROM DEPARTMENTS JOIN EMPLOYEES USING (DEPARTMENT\_ID)

GROUP BY DEPARTMENT\_NAME

1. Display the month in which more than 5 employees joined in any department located in Sydney.

SELECT TO\_CHAR(HIRE\_DATE,'MON-YY')

FROM EMPLOYEES JOIN DEPARTMENTS USING (DEPARTMENT\_ID) JOIN LOCATIONS USING (LOCATION\_ID)

WHERE CITY = 'Seattle'

GROUP BY TO\_CHAR(HIRE\_DATE,'MON-YY')

HAVING COUNT(\*) > 5

1. Display details of departments in which the maximum salary is more than 10000.

SELECT \* FROM DEPARTMENTS WHERE DEPARTMENT\_ID IN

( SELECT DEPARTMENT\_ID FROM EMPLOYEES

GROUP BY DEPARTMENT\_ID

HAVING MAX(SALARY)>10000)

1. Display details of departments managed by ‘Smith’.

SELECT \* FROM DEPARTMENTS WHERE MANAGER\_ID IN

(SELECT EMPLOYEE\_ID FROM EMPLOYEES WHERE FIRST\_NAME='SMITH')

1. Display jobs into which employees joined in the current year.

SELECT \* FROM JOBS WHERE JOB\_ID IN

(SELECT JOB\_ID FROM EMPLOYEES WHERE TO\_CHAR(HIRE\_DATE,'YYYY')=TO\_CHAR(SYSDATE,'YYYY'))

1. Display employees who did not do any job in the past.

SELECT \* FROM EMPLOYEES WHERE EMPLOYEE\_ID NOT IN

(SELECT EMPLOYEE\_ID FROM JOB\_HISTORY)

1. Display job title and average salary for employees who did a job in the past.

SELECT JOB\_TITLE, AVG(SALARY) FROM JOBS NATURAL JOIN EMPLOYEES

GROUP BY JOB\_TITLE

WHERE EMPLOYEE\_ID IN

(SELECT EMPLOYEE\_ID FROM JOB\_HISTORY)

1. Display country name, city, and number of departments where department has more than 5 employees.

SELECT COUNTRY\_NAME, CITY, COUNT(DEPARTMENT\_ID)

FROM COUNTRIES JOIN LOCATIONS USING (COUNTRY\_ID) JOIN DEPARTMENTS USING (LOCATION\_ID)

WHERE DEPARTMENT\_ID IN

(SELECT DEPARTMENT\_ID FROM EMPLOYEES

GROUP BY DEPARTMENT\_ID

HAVING COUNT(DEPARTMENT\_ID)>5)

GROUP BY COUNTRY\_NAME, CITY;

1. Display details of manager who manages more than 5 employees.

SELECT FIRST\_NAME FROM EMPLOYEES

WHERE EMPLOYEE\_ID IN

(SELECT MANAGER\_ID FROM EMPLOYEES

GROUP BY MANAGER\_ID

HAVING COUNT(\*)>5)

1. Display employee name, job title, start date, and end date of past jobs of all employees with commission percentage null.

SELECT FIRST\_NAME, JOB\_TITLE, START\_DATE, END\_DATE

FROM JOB\_HISTORY JH JOIN JOBS J USING (JOB\_ID) JOIN EMPLOYEES E ON ( JH.EMPLOYEE\_ID = E.EMPLOYEE\_ID)

WHERE COMMISSION\_PCT IS NULL

1. Display the departments into which no employee joined in last two years.

SELECT \* FROM DEPARTMENTS

WHERE DEPARTMENT\_ID NOT IN

( SELECT DEPARTMENT\_ID FROM EMPLOYEES WHERE FLOOR((SYSDATE-HIRE\_DATE)/365) < 2)

1. Display the details of departments in which the max salary is greater than 10000 for employees who did a job in the past.

SELECT \* FROM DEPARTMENTS

WHERE DEPARTMENT\_ID IN

(SELECT DEPARTMENT\_ID FROM EMPLOYEES

WHERE EMPLOYEE\_ID IN (SELECT EMPLOYEE\_ID FROM JOB\_HISTORY)

GROUP BY DEPARTMENT\_ID

HAVING MAX(SALARY) >10000)

1. Display details of current job for employees who worked as IT Programmers in the past.

SELECT \* FROM JOBS

WHERE JOB\_ID IN

(SELECT JOB\_ID FROM EMPLOYEES WHERE EMPLOYEE\_ID IN

(SELECT EMPLOYEE\_ID FROM JOB\_HISTORY WHERE JOB\_ID='IT\_PROG'))

1. Display the details of employees drawing the highest salary in the department.

SELECT DEPARTMENT\_ID,FIRST\_NAME, SALARY FROM EMPLOYEES OUTER WHERE SALARY =

(SELECT MAX(SALARY) FROM EMPLOYEES WHERE DEPARTMENT\_ID = OUTER.DEPARTMENT\_ID)

1. Display the city of employee whose employee ID is 105.

SELECT CITY FROM LOCATIONS WHERE LOCATION\_ID =

(SELECT LOCATION\_ID FROM DEPARTMENTS WHERE DEPARTMENT\_ID =

(SELECT DEPARTMENT\_ID FROM EMPLOYEES WHERE EMPLOYEE\_ID=105)

)

1. Display third highest salary of all employees

select salary

from employees main

where 2 = (select count( distinct salary )

from employees

where salary > main.salary)