|  |  |  |  |
| --- | --- | --- | --- |
| **EMPLOYEE TABLE** | | | |
| **COLUMNS** | **DATA TYPE** | **CONSTRAINTS** |  |
| EMPLOYEE\_ID | INT (11) | NOT NULL, | PRIMARY KEY |
| EMP\_NAME | VARCHAR (30) | NOT NULL |  |
| DEPT\_ID | INT (10) | NOT NULL | FOREIGN KEY |
| JOINING\_DT | DATE |  |  |
| DOB | DATE |  |  |
| YRS\_OF\_EXP | NUMERIC |  |  |
| PHONE\_NUMB | INT (11) |  |  |
| MARTIAL\_STATUS | BOOLEAN |  |  |
| JOB\_ID | INT (11) | NOT NULL | FOREIGN KEY |
| SALARY | DECIMAL (8,2) | NOT NULL |  |
| MANAGER\_ID | INT (11) | NOT NULL | FOREIGN KEY |

**1**. Prepare Table Script for below tables ?

|  |  |  |  |
| --- | --- | --- | --- |
| **LOCATION TABLE** | | | |
| **COLUMNS** | **DATA TYPE** | **CONSTRAINTS** |  |
| LOC\_ID | INT (11) | NOT NULL | PRIMARY KEY |
| STREET\_NO | INT (10) | DEFAULT NULL |  |
| VILL\_NAME | VARCHAR (40) | DEFAULT NULL |  |
| CITY | VARCHAR (30) | NOT NULL |  |
| STATE | VARCHAR (25) | NOT NULL |  |
| COUNTRY | VARCHAR (30) | NOT NULL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **JOBS TABLE** | | | |
| **COLUMNS** | **DATA TYPE** | **CONSTRAINTS** |  |
| JOB\_ID | INT (11) | NOT NULL | PRIMARY KEY |
| JOB\_TITLE | VARCHAR (30) | NOT NULL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **DEPARTMENT TABLE** | | | |
| **COLUMNS** | **DATA TYPE** | **CONSTRAINTS** |  |
| DEPT\_ID | INT (11) | NOT NULL, | PRIMARY KEY |
| DEPT\_NAME | VARCHAR (30) | DEFAULT NULL |  |
| LOC\_ID | INT (11) | DEFAULT NULL | FOREIGN KEY |
| DEPT\_HEAD | VARCHAR (30) | NOT NULL |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **DEPENDENTS TABLE** | | | |
| **COLUMNS** | **DATA TYPE** | **CONSTRAINTS** |  |
| DEP\_ID | INT (11) | NOT NULL | PRIMARY KEY |
| DEP\_NAME | VARCHAR (50) | NOT NULL |  |
| RELATIONSHIP | VARCHAR (25) | NOT NULL |  |
| EMPLOYEE\_ID | INT (11) | NOT NULL | FOREIGN KEY |

**2 PRACTICE QUESTIONS**

**2.1 Select statements**

2.1.1 Write a query to display employee id, employee name, department id, department name of all employees who has a department assigned?

Answer–

**select e.employee\_id, e.emp\_name, e.dept\_id, d.dept\_name**

**from employee e join department d**

**where e.dept\_id=d.dept\_id;**

2.1.2 Write query to display employee name with monthly salary?

Answer-

**select emp\_name, salary/12 from employee;**

**2.2 Where condition**

2.2.1. Write a query to display employee details with salary less than 5 lakhs?

**Answer- select \* from employee where salary < 500000;**

2.2.2 Write a query to display the employee id, employee name of the employees who joined before 2015?

**Answer-**

**select employee\_id,emp\_name**

**from employee where joining\_date<('2015-1-1');**

2.2.3Write a query to display the employee name, salary and manager I D, for those employees whose managers hold the ID 100, 120, 145, 149?

**Answer- select emp\_name,salary,manager\_id**

**from employee where manager\_id in (1,2,9);**

2.2.4 Write a query to display all employee names to begin with ‘R’?

**Answer-**

**select emp\_name from employee where emp\_name like 'R%';**

#### 2.2.5 Write an SQL query to fetch the list of employees with the same salary?

**Answer-**

**select distinct e.emp\_name,e.salary from employee e,employee t where e.emp\_name!=t.emp\_name and e.salary=t.salary;**

2.2.6 Write a query to retrieve all the employees who are working in Finance, Manufacturing, and Construction departments?

**Answer-**

**select e.employee\_id,e.emp\_name from employee e,department d where e.dept\_id=d.dept\_id and d.dept\_name in ('finance','manufacuring','construction');**

**desc table employee;**

**2.3 Group By, Order By and Having Conditions**

2.3.1 Write a query to display number of employees in each department and group by department?

**Answer-**

**select d.dept\_name, count(d.dept\_name)as number\_of\_emp from department d left join employee e on**

**e.dept\_id = d.dept\_id group by d.dept\_name;**

2.3.2. Write query to fetch employee name, department number of all employees in departments 20 or 50 in ascending alphabetical and order by name?

**Answer-**

**select emp\_name,dept\_id from employee where dept\_id in (112,111) order by emp\_name asc;**

2.3.3. Write a query to Display the employee name, department number, and department name for each employee order by employee name?

**Answer-**

**select e.emp\_name,e.dept\_id,d.dept\_name**

**from employee e,department d**

**where e.dept\_id= d.dept\_id order by e.emp\_name;**

2.3.4. Write a query to get the employee name, department id, years of experience for unmarried employees group by experience and order by department id?

**Answer-**

**select ee.emp\_name, x.dept\_id,x.exp**

**from employee ee**

**left join (SELECT dept\_id,DATEDIFF(year,joining\_date,CURRENT\_DATE()) AS exp from employee where martial\_stat = true group by exp ,dept\_id) x**

**on x.dept\_id=ee.dept\_id;**

**2.4 Joins**

2.4.1 Write a query to get employee name, employee id, department name who belongs to state ANDHRA PRADESH use left join?

**Answer-**

**select e.emp\_name,e.employee\_id,d.dept\_name**

**from employee e**

**left join department d**

**on e.dept\_id=d.dept\_id**

**where e.dept\_id**

**in (select d.dept\_id from department d left join location l on d.loc\_id=l.loc\_id where l.state ='up');**

2.4.2 Write query to find employee name, salary and job title for all employees use right join?

**Answer-**

**select e.emp\_name, e.salary,j.job\_tital**

**from jobs j**

**right join employee e**

**on j.job\_id = e.job\_id;**

2.4.3 Write a query to get number of employees with same job title use inner join?

**Answer-**

**select j.job\_tital , count(\*)**

**from employee e**

**inner join jobs j on e.job\_id =j.job\_id group by j.job\_tital;**

2.4.4 Write q query to get employee name, department name, state who are unmarried use full join?

**Answer-**

**select e.emp\_name**

**from employee e,department d,location l**

**where e.dept\_id=d.dept\_id and d.loc\_id=l.loc\_id and e.martial\_stat=false;**

**2.5 Aggregations**

2.5.1 Write a query to get difference between highest and lowest salaries and label the column difference?

**Answer-**

**select ((select max(salary) from employee)-(select min(salary) from employee)) as Difference ;**

2.5.2Write a query to display employees who earn more than the average salary and who work in the IT department?

**Answer-**

**select e.emp\_name**

**from employee e,department d**

**where salary > (select avg(salary) from employee) and d.dept\_id=e.dept\_id and d.dept\_name = 'it';**

2.5.3 Write a query to display what is the average, maximum and minimum salary for each department?

**Answer-**

**select d.dept\_id,avg(salary),min(salary),max(salary)**

**from employee e , department d**

**where e.dept\_id=d.dept\_id**

**group by d.dept\_id;**

**2.6 SQL Functions**

#### 2.6.1 Write an SQL query to print the first three characters of EMPLOYEE NAME?

**Answer- select substr(emp\_name,1,3) from employee;**

2.6.2 Write a query to print employee name ends with ‘h’ and contains six alphabets?

**Answer-**

**select emp\_name**

**from employee where emp\_name like '\_\_\_\_\_h';**

2.6.3 Write a query to get age from date of birth in employee table?

**Answer-**

**select emp\_name,datediff(YEAR,dob,current\_date()) as age**

**from employee;**

2.6.4 Write a query to convert employee into lower case and find the length of the employee name?

**Answer-**

**SELECT LOWER(EMP\_NAME),length(EMP\_NAME) FROM EMPLOYEE;**

2.6.5 Write a query to add current date as date to the employee table?

**Answer-**

**ALTER TABLE EMPLOYEE ADD CURRENT\_DATE DATE;**

2.6.6 Write a query to convert decimal type to integer for salary column in employee table?

**Answer- SELECT ABS(SALARY) FROM EMPLOYEE;**

2.6.7 Write a query to format joining date to format YYYY-MM-DD ?

**Answer-**

**select to\_char(joining\_dt,'yyyy-mm-dd') as formatted\_date from employee;**

#### 2.7 Index and view

2.7.1 Write a query to create a view that shows employee name, phone number, Manager id from employees table who are from city = Bangalore?

**Answer-**

**CREATE VIEW NEW\_VIEW**

**AS SELECT \* FROM EMPLOYEE**

**WHERE EMPLOYEE\_ID = 2;**

**SELECT \* FROM NEW\_VIEW ;**

2.7.2 Write a query to create an index on employee table with employee name, DOB and martial status?

**Answer-**

**CREATE INDEX MY\_INDEX**

**ON EMPLOYEE (EMP\_NMAE, DOB,MARITAL\_STAT);**

#### 2.8 Sub Queries

2.8.1 Write a query to fetch all the employee details who do not have location Id 2546?

**Answer-**

**select \***

**from employee e ,(select l.loc\_id,d.dept\_id from department d,location l where l.loc\_id !=6 and d.loc\_id = l.loc\_id) x**

**where e.dept\_id=x.dept\_id;**

2.8.2 Write a query to fetch employee details whose salaries are greater than the average salary of all the employees?

**Answer-**

**select \* from employee**

**where salary> (SELECT avg(salary) from employee);**

2.8.3 Write a query to find all the departments do not have any employee with salary greater than 2.5 lakhs?

**Answer-**

**select distinct d.dept\_name**

**from (select \* from employee where salary < 250000) e, department d**

**where e.dept\_id = d.dept\_id;**