**DATABASE MANAGEMENT SYSTEM**

**PRACTICAL LAB ASSIGNMENT 1**

**A relational database contains two tables EMP & DEPT .**

**i) Create the above 2 tables with the following structure:**

E**MP Table**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Description** |
| EMPNO | NUMERIC(4) Primary key | Employee no |
| ENAME | VARCHAR(20) NOT NULL | Employee name |
| JOB | CHAR(10) | Designation |
| MGR | NUMERIC(4) | Respective manager’s empno |
| HIREDATE | DATETIME | Date of Joining |
| SAL | NUMERIC(9,2) | Salary |
| COMM | NUMERIC(7,2) | Commission |
| DEPTNO | NUMERIC(2) | Department |

**DEPT Table**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Description** |
| DEPTNO | NUMRIC(2) Primary key | Dept no |
| DNAME | VARCHAR(20) NOT NULL | Department name |
| LOC | VARCHAR(10) | Department location |

**ii) Insert the following records into EMP Table:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| EMPNO | ENAME | JOB | MGR | HIREDATE | SAL | COMM | DEPTNO |
| **7369** | **SMITH** | **CLERK** | **7902** | **1980-12-17** | **800** |  | **20** |
| **7499** | **ALLEN** | **SALESMAN** | **7698** | **1981-02-20** | **1600** | **300** | **30** |
| 7521 | WARD | SALESMAN | 7698 | **1981-02-22** | 1250 | 500 | 30 |
| 7566 | JONES | MANAGER | 7839 | **1981-04-02** | 2975 |  | 20 |
| 7654 | MARTIN | SALESMAN | 7698 | **1981-09-28** | 1250 | 1400 | 30 |
| 7698 | BLAKE | MANAGER | 7839 | **1981-05-01** | 2850 |  | 30 |
| 7782 | CLARK | MANAGER | 7839 | **1981-06-09** | 2450 |  | 10 |
| 7788 | SCOTT | ANALYST | 7566 | **1987-04-19** | 3000 |  | 20 |
| 7839 | KING | PRESIDENT |  | **1981-11-17** | 5000 |  | 10 |
| 7844 | TURNER | SALESMAN | 7698 | **1981-09-08** | 1500 | 0 | 30 |
| 7876 | ADAMS | CLERK | 7788 | **1987-05-23** | 1100 |  | 20 |
| 7900 | JAMES | CLERK | 7698 | **1981-12-03** | 950 |  | 30 |
| 7902 | FORD | ANALYST | 7566 | **1981-12-03** | 3000 |  | 20 |
| **7934** | **MILLER** | **CLERK** | **7782** | **1982-01-23** | **1300** |  | **10** |

Contd.

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1

1. **Insert the following records into DEPT Table:**

|  |  |  |
| --- | --- | --- |
| **DEPTNO** | **DNAME** | **LOC** |
| 10 | ACCOUNTING | NEW YORK |
| 20 | RESEARCH | DALLAS |
| 30 | SALES | CHICAGO |
| 40 | OPERATIONS | BOSTON |

1. **Perform the following queries :**
2. SELECT ALL THE RECORDS FROM EMP TABLE
3. SELECT ALL THE RECORDS FROM DEPT TABLE
4. FIND THE EMPLOYEE NAME,SALARY WHO IS WORKING IN DEPT NO 20
5. FIND THE NAME ,JOB,SALARY OF THE EMPLOYEE WHO IS MANAGER

SELECT employeename, job, salary

FROM employee

WHERE job = 'MANAGER';

1. FIND THE NAME ,JOB,SALARY OF THE EMPLOYEE WHO IS NOT A MANAGER

SELECT employeename, job, salary

FROM employee

WHERE job != 'MANAGER';

1. FIND THOSE EMPLOYEES WHO WERE HIRED BETWEEN 1 MAR 1981 AND 1 JUN 1983

SELECT \*

FROM employee

WHERE hiredate BETWEEN '1981-03-01' AND '1983-06-01';

1. FIND EMPLOYEE NAME WHO WERE HIRED IN 1981

SELECT employeename AS ename

FROM employee

WHERE YEAR(hiredate) = 1981;

1. FIND EMPLOYEE NAME WHOSE NAME STARS WITH ‘S’

SELECT employeename

FROM employee

WHERE employeename LIKE 'S%';

1. FIND EMPLOYEE NAME WHOSE NAME ENDS WITH ‘S’

SELECT employeename

FROM employee

WHERE employeename LIKE '%S';

1. FIND EMPLOYEE NAME WHO ARE WORKING IN DEPT NO 20 & 40.

SELECT employeename AS ename, job, department AS deptno

FROM employee

WHERE job IN ('CLERK', 'SALESMAN');

1. FIND ENAME,JOB AND DEPTNO WHO ARE CLERK & SALESMAN.

SELECT employeename AS ename, job, department AS deptno

FROM employee

WHERE job IN ('CLERK', 'SALESMAN');

1. FIND ENAME WHO ARE MANAGER AND GETTING SALARY MORE THAN 2000

> select ename

-> from employee

-> where job ='manager' and sal > 2000;

1. FIND ENAME WHO ARE WORKING IN DEPTNO 30 ORDER BY SALARY IN DESC. ORDER

> select ename

-> from employee

-> where deptno = 30

-> order by sal desc;

1. FIND OUT THE TOTAL SALARY OF ALL THE EMPLOYEES

mysql> select sum(sal)

-> from employee;

1. FIND OUT AVGERAGE SALARY OF ALL THE EMPLOYEES WHO ARE WORKING IN DEPTNO 30

mysql> select avg(sal)

-> from employee

-> where deptno = 30;

1. FIND OUT THE MINIMUM SALARY OF DEPT NO 20

mysql> select min(sal)

-> from employee

-> where deptno = 20;

1. FIND OUT THE MAXIMUM HIREDATE

mysql> select max(hiredate)

-> from employee;

1. FIND OUT THE TOTAL NUMBER OF EMPLOYEES WHO ARE WORKING IN DEPT NO 10

mysql> select count(\*) AS TOTAL\_number\_of\_Employees

-> from employee

-> where deptno = 10;

1. FIND OUT DEPTNO, TOTAL SALARY OF THOSE DEPT WHERE THERE IS NO SALESMAN AND TOTAL SALARY OF DEPT IS MORE THAN 8500

SELECT department AS deptno, SUM(salary) AS total\_salary

FROM employee

GROUP BY department

HAVING SUM(CASE WHEN job = 'SALESMAN' THEN 1 ELSE 0 END) = 0

AND SUM(salary) > 8500;

1. FIND ENAME WHO WAS HIRED FIRST

mysql> select ename

-> from employee

-> order by hiredate asc;

1. FIND TOTAL SALARY FOR THOSE WHO ARE NOT MANAGER

mysql> select sum(sal)

-> from employee

-> where job != 'manager';

1. FIND OUT JOB AND AVERAGE SALARY FOR ALL THE JOB TYPES WITH MORE THAN 2 EMPLOYEES
2. FIND OUT THE ENAME HAVING MAXIMUM SALARY IN EACH DEPT
3. FIND THE SQUARE ROOT OF THE SALARY IN EMP TABLE

select sqrt(sal) as SquareRoot\_of\_Employee\_salary

-> from employee;

1. FIND AVG SALARY FOR THOSE EMPLOYEES WHOSE JOB=’CLERK’

mysql> select avg(sal)

-> from employee

-> where job = 'clerk';

1. FIND TOTAL SALARY FOR THOSE EMPLOYEES WHO WERE HIRED IN 1981

mysql> select sum(sal)

-> from employee

-> where year(hiredate) = 1981;

1. CHANGE THE JOB , DEPTNO,SALARY WHOSE EMPNO=7788
2. CREATE TABLE NEW USING ALL RECORDS FROM EMP
3. CHANGE THE JOB OF TABLE NEW TO ‘SALES’
4. SELECT ALL RECORDS FROM NEW
5. ADD A NEW COLUMN ADDRESS VARCHAR(10) TO TABLE NEW
6. INSERT THE VALUE TO ADDRESS COLUMN IN TABLE NEW
7. SELECT ALL RECORDS FROM NEW
8. UPDATE THE SIZE OF ADDRESS COLUMN FROM 10 TO 4
9. DELETE TABLE NEW

2