**MCAC104**

**DATABASE SYSTEM**

**ASSIGNMENT 3**

**SUBMITTED BY**

**GAURAV**

**MCA(1st SEM)**

**a).Identify primary and foreign keys.**

PRIMARY KEYS : suppliers(Sno),Parts(pno),Project(Jno)

Foreign KEYS : Shipment(Sno,Pno,Jno)

**b).Get supplier numbers for suppliers in Paris with status>20.**

mysql> SELECT e1.ename AS Employee, e1.empno AS EmployeeID, e2.ename AS Manager, e2.empno AS ManagerID FROM emp AS e1 LEFT JOIN emp AS e2 ON e1.mgr = e2.empno;

+----------+------------+---------+-----------+

| Employee | EmployeeID | Manager | ManagerID |

+----------+------------+---------+-----------+

| SMITH | 7369 | FORD | 7902 |

| ALLEN | 7499 | BLAKE | 7698 |

| ward | 7521 | BLAKE | 7698 |

| JONES | 7566 | KING | 7839 |

| MARTIN | 7654 | BLAKE | 7698 |

| BLAKE | 7698 | KING | 7839 |

| CLARK | 7782 | KING | 7839 |

| SCOTT | 7788 | JONES | 7566 |

| KING | 7839 | NULL | NULL |

| TURNER | 7844 | BLAKE | 7698 |

| ADAMS | 7876 | SCOTT | 7788 |

| JAMES | 7900 | BLAKE | 7698 |

| FORD | 7902 | JONES | 7566 |

| MILLER | 7934 | CLARK | 7782 |

+----------+------------+---------+-----------+

14 rows in set (0.00 sec)

**Query28. Write a query to display employee name, department number and all the employees**

**that work in the same department as the given employee. Do this for all the employees.**

mysql> SELECT e1.ename, e1.deptno FROM emp AS e1, emp AS e2 WHERE e1.deptno = e2.deptno AND e1.empno != e2.empno;

+--------+--------+

| ename | deptno |

+--------+--------+

| FORD | 20 |

| ADAMS | 20 |

| SCOTT | 20 |

| JONES | 20 |

| JAMES | 30 |

| TURNER | 30 |

| BLAKE | 30 |

| MARTIN | 30 |

| ward | 30 |

| JAMES | 30 |

| TURNER | 30 |

| BLAKE | 30 |

| MARTIN | 30 |

| ALLEN | 30 |

| FORD | 20 |

| ADAMS | 20 |

| SCOTT | 20 |

| SMITH | 20 |

| JAMES | 30 |

| TURNER | 30 |

| BLAKE | 30 |

| ward | 30 |

| ALLEN | 30 |

| JAMES | 30 |

| TURNER | 30 |

| MARTIN | 30 |

| ward | 30 |

| ALLEN | 30 |

| MILLER | 10 |

| KING | 10 |

| FORD | 20 |

| ADAMS | 20 |

| JONES | 20 |

| SMITH | 20 |

| MILLER | 10 |

| CLARK | 10 |

| JAMES | 30 |

| BLAKE | 30 |

| MARTIN | 30 |

| ward | 30 |

| ALLEN | 30 |

| FORD | 20 |

| SCOTT | 20 |

| JONES | 20 |

| SMITH | 20 |

| TURNER | 30 |

| BLAKE | 30 |

| MARTIN | 30 |

| ward | 30 |

| ALLEN | 30 |

| ADAMS | 20 |

| SCOTT | 20 |

| JONES | 20 |

| SMITH | 20 |

| KING | 10 |

| CLARK | 10 |

+--------+--------+

56 rows in set (0.00 sec)

**Query29. Write a query to display the name, job, department name, salary and grade for all**

**employees.**

mysql> SELECT emp.ename, emp.job, dept.dname, emp.sal, salgrade.grade FROM emp, dept, salgrade WHERE emp.deptno = dept.deptno AND (emp.sal >= salgrade.losal AND emp.sal <= salgrade.hisal);

+--------+-----------+------------+---------+-------+

| ename | job | dname | sal | grade |

+--------+-----------+------------+---------+-------+

| SMITH | CLERK | RESEARCH | 800.00 | 1 |

| ALLEN | SALESMAN | SALES | 1600.00 | 3 |

| ward | SALESMAN | SALES | 1250.00 | 2 |

| JONES | MANAGER | RESEARCH | 2975.00 | 4 |

| MARTIN | SALESMAN | SALES | 1250.00 | 2 |

| BLAKE | MANAGER | SALES | 2850.00 | 4 |

| CLARK | MANAGER | ACCOUNTING | 2450.00 | 4 |

| SCOTT | ANALYST | RESEARCH | 3000.00 | 4 |

| KING | PRESIDENT | ACCOUNTING | 5000.00 | 5 |

| TURNER | SALESMAN | SALES | 1500.00 | 3 |

| ADAMS | CLERK | RESEARCH | 1100.00 | 1 |

| JAMES | CLERK | SALES | 950.00 | 1 |

| FORD | ANALYST | RESEARCH | 3000.00 | 4 |

| MILLER | CLERK | ACCOUNTING | 1300.00 | 2 |

+--------+-----------+------------+---------+-------+

**Query30. Write a query to display all names and hire dates of all employees along with their**

**manager&#39;s name and hire date for all employees who were hired before their managers.**

**.** mysql> SELECT e1.ename AS Employee, e1.hiredate AS eHiredate, e2.ename AS Manager, e2.hiredate AS mHireDate FROM emp AS e1, emp AS e2 WHERE e1.mgr = e2.empno AND e1.hiredate < e2.hiredate;

+----------+------------+---------+------------+

| Employee | eHiredate | Manager | mHireDate |

+----------+------------+---------+------------+

| SMITH | 1980-12-17 | FORD | 1981-12-03 |

| ALLEN | 1981-02-20 | BLAKE | 1981-05-01 |

| ward | 1981-02-22 | BLAKE | 1981-05-01 |

| JONES | 1981-04-02 | KING | 1981-11-17 |

| BLAKE | 1981-05-01 | KING | 1981-11-17 |

| CLARK | 1981-06-09 | KING | 1981-11-17 |

+----------+------------+---------+------------+

6 rows in set (0.00 sec)

**Query31. Write a query to display the highest, lowest, sum and average salary of all employees.**

mysql> SELECT MIN(sal) AS MIN, MAX(sal) AS MAX, SUM(sal) AS SUM, AVG(sal) AS AVG FROM emp;

+--------+---------+----------+-------------+

| MIN | MAX | SUM | AVG |

+--------+---------+----------+-------------+

| 800.00 | 5000.00 | 29025.00 | 2073.214286 |

+--------+---------+----------+-------------+

**Query32. Write a query to display minimum, maximum, sum and average salary for each job**

**type.**

mysql> SELECT job, MIN(sal) AS MIN, MAX(sal) AS MAX, SUM(sal) AS SUM, AVG(sal) AS AVG FROM emp GROUP BY job;

+-----------+---------+---------+---------+-------------+

| job | MIN | MAX | SUM | AVG |

+-----------+---------+---------+---------+-------------+

| CLERK | 800.00 | 1300.00 | 4150.00 | 1037.500000 |

| SALESMAN | 1250.00 | 1600.00 | 5600.00 | 1400.000000 |

| MANAGER | 2450.00 | 2975.00 | 8275.00 | 2758.333333 |

| ANALYST | 3000.00 | 3000.00 | 6000.00 | 3000.000000 |

| PRESIDENT | 5000.00 | 5000.00 | 5000.00 | 5000.000000 |

+-----------+---------+---------+---------+-------------+

5 rows in set (0.00 sec)

**Query33. Write a query to display the number of people with the same job.**

mysql> SELECT job, COUNT(\*) AS numberOfPeople FROM emp GROUP BY job;

+-----------+----------------+

| job | numberOfPeople |

+-----------+----------------+

| CLERK | 4 |

| SALESMAN | 4 |

| MANAGER | 3 |

| ANALYST | 2 |

| PRESIDENT | 1 |

+-----------+----------------+

5 rows in set (0.00 sec)

**Query34. Write a query to display the difference between the highest and lowest salaries.**

mysql> SELECT MAX(sal) - MIN(sal) AS difference FROM emp;

+------------+

| difference |

+------------+

| 4200.00 |

+------------+

1 row in set (0.00 sec)

**Query35. Write a query to display the manager number and the salary of the lowest paid**

**employee for that manager. Exclude any groups where the manager id is not known. Exclude**

**any groups where the minimum salary is less than $1000.**

SELECT MGR, COUNT(\*), MIN(SAL)

FROM emp

WHERE MGR IS NOT NULL

GROUP BY MGR

HAVING MIN(SAL) >= 1000;

+------+----------+----------+

| MGR | COUNT(\*) | MIN(SAL) |

+------+----------+----------+

| 7839 | 3 | 2450.00 |

| 7566 | 2 | 3000.00 |

| 7788 | 1 | 1100.00 |

| 7782 | 1 | 1300.00 |

+------+----------+----------+

4 rows in set (0.00 sec)

**Query36. Write a query to display the department name, location name, number of employees**

**and the average salary for all employees in that department.**

mysql> SELECT DISTINCT(dept.dname), dept.loc, (SELECT COUNT(emp.empno) FROM emp WHERE emp.deptno = dept.deptno) AS noOfEmployees, (SELECT COALESCE(AVG(sal), 0) FROM emp WHERE emp.deptno = dept.deptno) AS avg FROM dept;

+------------+----------+---------------+-------------+

| dname | loc | noOfEmployees | avg |

+------------+----------+---------------+-------------+

| ACCOUNTING | NEW YORK | 3 | 2916.666667 |

| RESEARCH | DALLAS | 5 | 2175.000000 |

| SALES | CHICAGO | 6 | 1566.666667 |

| OPERATIONS | BOSTON | 0 | 0.000000 |

+------------+----------+---------------+-------------+

4 rows in set (0.00 sec)

**Query37. Write a query to display the employee name and hire date for all employees in the**

**same department as Blake.**

mysql> SELECT emp.ename, emp.hiredate FROM emp JOIN dept ON emp.deptno = dept.deptno WHERE dept.deptno = (SELECT deptno FROM emp WHERE ename = "Blake");

+--------+------------+

| ename | hiredate |

+--------+------------+

| ALLEN | 1981-02-20 |

| ward | 1981-02-22 |

| MARTIN | 1981-09-28 |

| BLAKE | 1981-05-01 |

| TURNER | 1981-09-08 |

| JAMES | 1981-12-03 |

+--------+------------+

6 rows in set (0.00 sec)

**Query38. Write a query to display the employee number and employee name for all employees**

**who earn more than the average salary.**

mysql> SELECT empno, ename FROM emp WHERE sal > (SELECT AVG(sal) FROM emp);

+-------+-------+

| empno | ename |

+-------+-------+

| 7566 | JONES |

| 7698 | BLAKE |

| 7782 | CLARK |

| 7788 | SCOTT |

| 7839 | KING |

| 7902 | FORD |

+-------+-------+

6 rows in set (0.00 sec)

**Query39. Write a query to display the employee number and name for all employees who work**

**in a department with any employee whose name contains a T.**

mysql> SELECT emp.empno, emp.ename FROM emp, dept WHERE emp.deptno = dept.deptno AND emp.deptno IN (SELECT deptno FROM emp WHERE ename LIKE '%T%');

+-------+--------+

| empno | ename |

+-------+--------+

| 7369 | SMITH |

| 7499 | ALLEN |

| 7521 | ward |

| 7566 | JONES |

| 7654 | MARTIN |

| 7698 | BLAKE |

| 7788 | SCOTT |

| 7844 | TURNER |

| 7876 | ADAMS |

| 7900 | JAMES |

| 7902 | FORD |

+-------+--------+

11 rows in set (0.00 sec)

**Query40. Write a query to display the employee name and salary of all employees who report**

**to King.**

mysql> SELECT e1.ename AS Employee, e1.sal AS salary FROM emp AS e1, emp AS e2 WHERE e1.mgr = e2.empno AND e2.ename = "KING";

+----------+---------+

| Employee | salary |

+----------+---------+

| JONES | 2975.00 |

| BLAKE | 2850.00 |

| CLARK | 2450.00 |

+----------+---------+

3 rows in set (0.00 sec)

**Query41. Write a query to display the department number, name and job for all employees in**

**the Sales department.**

mysql> SELECT emp.ename, dept.deptno, dept.dname, emp.job FROM emp, dept WHERE emp.deptno = dept.deptno AND dept.dname = "SALES";

+--------+--------+-------+----------+

| ename | deptno | dname | job |

+--------+--------+-------+----------+

| ALLEN | 30 | SALES | SALESMAN |

| ward | 30 | SALES | SALESMAN |

| MARTIN | 30 | SALES | SALESMAN |

| BLAKE | 30 | SALES | MANAGER |

| TURNER | 30 | SALES | SALESMAN |

| JAMES | 30 | SALES | CLERK |

+--------+--------+-------+----------+

6 rows in set (0.00 sec)

**Query42.Write a query to display the employee number, name and salary for all employees**

**who earn more than the average salary and who work in a department with any employee with**

**a T in their name.**

mysql> SELECT emp.empno, emp.ename, emp.sal FROM emp, dept WHERE emp.deptno = dept.deptno AND emp.sal > (SELECT AVG(sal) FROM emp) AND emp.deptno IN (SELECT deptno FROM emp WHERE ename LIKE '%T%');

+-------+-------+---------+

| empno | ename | sal |

+-------+-------+---------+

| 7566 | JONES | 2975.00 |

| 7698 | BLAKE | 2850.00 |

| 7788 | SCOTT | 3000.00 |

| 7902 | FORD | 3000.00 |

+-------+-------+---------+

4 rows in set (0.00 sec)