**NORMALISTATION EXERCISE**

*PET (****ID****, NAME, TYPE, AGE, OWNER)*

**1.)**

CREATE TABLE PET ( ID int NOT NULL UNIQUE,

NAME VARCHAR (14),

PET\_TYPE INT NOT NULL,

AGE INT NOT NULL,

OWNER ID INT NOT NULL,

PRIMARY KEY(ID)

);

INSERT INTO PET VALUES (246, ’ROVER’, ‘DOG’, 12,1);

INSERT INTO PET VALUES (298, ‘SPOT’, ‘DOG’, 2, 2);

INSERT INTO PET VALUES (341, ‘MORRIS’, ‘CAT’, 4, 1);

INSERT INTO PET VALUES (519, ‘TWEEDY’, ‘BIRD’, 2, 2);

INSERT INTO PET VALUES (444, ‘SHUMPI’, ‘BIRD’, 5, 3);

INSERT INTO PET VALUES (222, ‘MILO’, ‘DOG’, 10, 4);

*VISIT (****ID, VISIT DATE, PROCEDURE NO.****)*   
  
CREATE TABLE VISIT (ID INT NOT NULL,  
 VISIT DATE DATE,  
 PROCEDURE NO. INT NOT NULL,  
 PRIMARY KEY (ID, VISIT DATE, PROCEDURE NO.)  
 );  
INSERT INTO VISIT VALUES (246, 13-01-2002, 1);  
INSERT INTO VISIT VALUES (246, 27-03-2002, 10);  
INSERT INTO VISIT VALUES (246, 02-04-2002, 5);  
INSERT INTO VISIT VALUES (298, 21-01-2002, 8);  
INSERT INTO VISIT VALUES (298, 10-03-2002, 5);  
INSERT INTO VISIT VALUES (341, 23-01-2001, 1);  
INSERT INTO VISIT VALUES (341, 13-01-2002, 1);  
INSERT INTO VISIT VALUES (519, 30-04-2002, 20);  
INSERT INTO VISIT VALUES (519, 30-04-2002, 12);  
INSERT INTO VISIT VALUES (444, 30-08-2002, 20);  
INSERT INTO VISIT VALUES (444, 30-08-2002, 12);  
INSERT INTO VISIT VALUES (222, 13-02-2003, 1);  
INSERT INTO VISIT VALUES (222, 27-03-2003, 10);  
INSERT INTO VISIT VALUES (222, 12-04-2003, 5);

*PROCEDURE (****PROCEDURE NO.****, PROCEDURE NAME)*

**3.)**

CREATE TABLE PROCEDURE ( PROCEDURE NO. INT NOT NULL,  
 PROCEDURE NAME VARCHAR(20),  
 PRIMARY KEY(PROCEDURE NO.)  
 );  
INSERT INTO PROCEDURE VALUES (1,’ RABIES VACCINATION’);  
INSERT INTO PROCEDURE VALUES(5,’ HEART WORM TEST’);  
INSERT INTO PROCEDURE VALUES ( 8, ‘ TETANUS VACCINATION’);  
INSERT INTO PROCEDURE VALUES (10, ‘EXAMINE and TREAT WOUND’);  
INSERT INTO PROCEDURE VALUES (12, ‘EYE WASH’);  
INSERT INTO PROCEDURE VALUES (20, ‘ ANNUAL CHECK UP’);

**Query 1:**

SELECT EMPNO, SAL, ENAME  
FROM EMP  
 **Query 2:**

SELECT ENAME, EMPNO, SAL, ((SAL+SAL\*0.3)-SAL) AS CHANGE

FROM EMP

WHERE ENAME = "CLARK"

**Query 3:**

SELECT EMPNO,ENAME, SAL, ((SAL+(SAL\*0.2))\*12) AS ANNUALSAL

FROM EMP

WHERE ENAME ="FORD"

**Query 4:**

SELECT EMPNO, ENAME, SAL, SAL\*12 AS ANNUALSAL

FROM EMP

ORDER BY ANNUALSAL DESC  
  
**Query 5:**  
Calculate total take home( salary + comm) for each employee  
  
SELECT ENAME, SAL + COMM AS TOTAL\_TAKE\_HOME  
FROM EMP  
  
**Query 6:**  
Display ENAME and JOB concatenated with string works as  
  
**Query 7:**  
What is the EMPNO of “James”?  
  
SELECT ENAME,EMPNO  
FROM EMP  
WHERE ENAME IS ‘JAMES’  
  
**Query 8:**  
What is the salary of “king”?  
  
SELECT ename, empno, sal  
FROM emp  
WHERE ename IS ‘KING’  
  
**Query 9:**  
Who is the President of Org?  
  
SELECT ENAME  
FROM EMP  
WHERE JOB LIKE ‘PRESIDENT’  
  
**Query 10:**  
Which Dept is in Boston?  
  
SELECT dname  
FROM dept  
WHERE loc LIKE ‘BOSTON’

**Query 11:**  
What is the Dept No. of Accounting?  
  
SELECT deptno  
FROM dept  
WHERE dname LIKE ‘ACCOUNTING’  
  
**Query 12:**  
List Employee names drawing Sal between 1500 & 3000?  
  
SELECT ename  
FROM emp  
WHERE sal BETWEEN 1500 AND 3000  
  
**Query 13:**  
List all details of Managers?  
  
SELECT \*  
FROM emp  
WHERE job LIKE ‘MANAGER’  
  
**Query 14:**  
Give EMP Details for employees drawing commission?  
  
SELECT \*  
FROM emp  
WHERE comm IS NOT NULL  
 **Query 15:**  
Who is the manager for dept no 30?  
  
SELECT ename  
FROM emp  
WHERE job LIKE ‘MANAGER’ AND DEPTNO = 30  
  
**Query 16:**  
List employees who joined before April 1981?  
  
SELECT \*  
FROM emp  
WHERE hiredate IN (%JAN-81, %FEB-81, %MAR-81)  
  
**Query 17:**  
What is the salary of the following? ( King, Blake, Ford, Smith )  
  
SELECT ename, sal

FROM emp

WHERE ename IN ('KING','BLAKE','FORD','SMITH')  
  
**Query 18:**  
Give the HireDate of President & Managers?  
  
SELECT \*  
FROM emp  
WHERE job IN (‘PRESIDENT’ , ‘MANAGERS’ )  
  
  
  
  
  
**Query 19:**  
Who is drawing salary less than 3500?  
  
SELECT ename  
FROM emp  
WHERE SAL < 3500  
  
**Query 20:**  
List the details of all the clerks?  
  
SELECT \*  
FROM emp  
WHERE job LIKE ‘CLERK’  
  
**Query 21:**  
List the names starting with A?  
  
SELECT ename  
FROM emp  
WHERE ename LIKE ‘A%’  
  
**Query 22:**  
List the names whose name ends with D?  
  
SELECT ename  
FROM emp  
WHERE ename LIKE ‘%D’  
  
**Query 23:**  
List the names in which 3rd character is L?  
  
SELECT ename  
FROM emp  
WHERE ename LIKE ‘\_\_L%’  
  
**DAY 2**  
**Query 1:**  
What is the total salary for each department?  
  
SELECT deptno, sum(sal)

FROM emp

GROUP BY deptno

**Query 2:**  
Who is drawing the lowest salary in dept 10?  
  
SELECT ename , min(sal)

FROM emp

WHERE deptno = 10;  
  
**Query 3:**  
What is the average salary for managers?  
  
SELECT round(avg(sal),2)

FROM emp

WHERE job LIKE 'manager'

**Query 4:**  
What is the total salary for salesman?  
  
SELECT sum(sal)

FROM emp

WHERE job LIKE 'salesman'  
  
**Query 5:**  
What is the average salary for each department?  
  
SELECT deptno, round(avg(sal),2)

FROM emp

GROUP BY deptno  
  
**Query 6:**  
Which job role is having average salary less than 2000 and arrange in the order of average salary?  
  
SELECT job, avg(sal)  
FROM emp  
GROUP BY job  
HAVING avg(sal)<2000  
ORDER BY 2;  
 **Query 7:**  
Which department total salary is more than 10000?  
  
SELECT deptno, sum(sal)

FROM emp

GROUP BY deptno

HAVING sum(sal)>10000  
  
**Query 8:**How many persons are in each job?  
  
SELECT count(\*), job

FROM emp

GROUP BY job  
  
**Query 9:**How many persons are there in each role joined after Apr 81?  
  
SELECT ename, job, hiredate  
FROM emp  
WHERE hiredate LIKE ‘%MAR%81’ OR hiredate LIKE ‘%MAR%80’ OR hiredate LIKE ‘%FEB%81’ OR hiredate LIKE ‘%FEB%80’ OR hiredate LIKE ‘%JAN%81’ OR hiredate LIKE ‘%JAN%80’;   
  
**Query 10:**What is the highest salary among analyst?  
  
SELECT MAX(sal)  
FROM emp  
WHERE job LIKE ‘analyst’  
  
**Query 11:**Which is the highest commission paid?  
  
SELECT ename, MAX(comm)  
FROM emp  
  
**Query 12:**How many departments are there?  
  
SELECT count(deptno)  
FROM dept

**Query 13:**Select the last name and job id from all employees whose department id is equal to accounting?  
  
SELECT ename, job  
FROM emp, dept  
WHERE emp.deptno=dept.deptno AND dname LIKE ‘accounting’  
**Using Subquery:**  
Select ename, job  
from emp  
where dept no = ( select dept no  
 from dept  
 where dname like ‘accounting’)

**Query 14:**How many employees work in Chicago?  
  
SELECT count(ename)  
FROM emp e  
JOIN dept d  
WHERE e.deptno = d.deptno AND d.loc LIKE 'chicago'  
**Using Subquery:**  
SELECT count(ename)  
FROM emp  
WHERE deptno = (SELECT deptno  
 FROM dept  
 WHERE loc LIKE ‘chicago’)  
  
**Query 15:**  
Which employees work in Chicago?  
  
SELECT ename  
FROM emp e  
JOIN dept d  
WHERE e.deptno = d.deptno AND d.loc LIKE 'chicago'  
  
**Using Subquery:**  
SELECT ename  
FROM emp  
WHERE deptno = (SELECT deptno  
 FROM dept

WHERE loc LIKE ‘chicago’)  
 **Query 16:**  
List the employees names and cities in which they work. Order the list by city?  
  
SELECT ename, loc  
FROM emp e, dept d  
WHERE e.deptno = d.deptno  
ORDER BY loc  
  
  
  
  
**Using Subquery:**  
SELECT e.ename, l.loc  
FROM emp e, (SELECT loc,deptno  
 FROM dept  
 ORDER BY loc ) l  
WHERE e.deptno=deptno  
  
**Query 17:**List the name and designation of the employees who does not report to anybody?  
  
SELECT ename, job  
FROM emp  
WHERE mgr IS NULL  
  
**Query 18:**Which department is not having any employees?  
  
SELECT d.dname  
FROM dept d  
LEFT JOIN emp e ON d.deptno = e.deptno  
WHERE e.deptno IS NULL  
  
**Using Subquery:**  
SELECT dname  
FROM dept  
WHERE deptno NOT IN(SELECT deptno  
 FROM emp)  
   
**Query 19:**List employees & their managers?  
  
SELECT e.ename || ‘ works for ‘ || m.ename  
FROM emp e, emp m  
WHERE e.mgr = m.empno  
  
**Using Subquery:**  
SELECT ename  
FROM emp  
WHERE mgr IN (SELECT empno  
 FROM emp)  
 **Query 20:**Find the first names of all employees whose salaries are greater than the minimum salary for the manager?  
SELECT ename, sal

FROM emp

WHERE sal > ( SELECT MIN(sal)   
 FROM emp   
 WHERE job like ‘MANAGER’)

**DAY 3  
  
Query 1:**  
Display salary as low, medium and high based on salary range  
Less than 1000🡪low  
1000 to 2500🡪medium  
>2500🡪high  
  
SELECT sal, CASE  
 WHEN sal < 1000 THEN ‘low’  
 WHEN sal>1000 AND sal < 2500 THEN ‘medium’  
 ELSE ‘high’ END AS sal\_range  
FROM emp;  
  
**Query 2:**  
If salary of an employee is more than 1000, then display salary otherwise display 1000?  
  
SELECT ename, sal, CASE  
 WHEN sal < 1000 THEN ‘1000’  
 ELSE sal  
 END AS sal\_new  
FROM emp;  
  
**Query 3:**Write a subquery using case statement to display non-sales if dept is not sales?  
  
SELECT deptno, CASE

WHEN dname NOT LIKE 'sales'   
 THEN 'non-sales'

ELSE 'sales'   
 END AS dept\_new

FROM dept;