SELECT ENAME, SAL FROM SCOTT.EMP; SELECT ENAME, DEPTNO FROM SCOTT.EMP; SELECT \* FROM SCOTT.EMP;

SELECT COMM, SAL, MGR, ENAME FROM SCOTT.EMP;

ALIAS :

SELECT ENAME, SAL AS SALARY, COMM AS COMMISSION, MGR AS MANAGER FROM SCOTT.EMP; SELECT ENAME, SAL SALARY, COMM COOMI, MGR MANAGER FROM SCOTT.EMP;

SELECT ENAME "EMPLOYEE", SAL " EMP EARNINGS", MGR "MANAGERS" FROM SCOTT.EMP;

EXPRESSIONS:

SELECT ENAME, JOB, SAL, SAL \* 12 FROM SCOTT.EMP;

SELECT ENAME, JOB, SAL, COMM, SAL + COMM FROM SCOTT.EMP;

SELECT ENAME, JOB, SAL, COMM, SAL + NVL(COMM, 0) FROM SCOTT.EMP; SELECT 1 FROM SCOTT.EMP;

SELECT 2\*3 FROM SCOTT.EMP;

SELECT 2+3, 2\*3, 2-3, 2/3 FROM SCOTT.EMP;

LITERALS:

SELECT ENAME, 'IS WORKING AS', JOB, 'IN DEPTNO', DEPTNO FROM SCOTT.EMP; SELECT ENAME || JOB || SAL FROM SCOTT. EMP;

SELECT ENAME || ' IS WORKING AS' || JOB || ' IN DEPT' || DEPTNO || ' AND EARNING ' || SAL " mY eMPLOYEES" FROM SCOTT.EMP;

DISTINCT:

SELECT JOB FROM SCOTT.EMP;

SELECT DISTINCT JOB FROM SCOTT.EMP; SELECT DISTINCT DEPTNO FROM SCOTT.EMP;

SELECT DISTINCT DEPTNO, JOB FROM SCOTT.EMP;

ORDER BY

SELECT \* FROM SCOTT.EMP;

SELECT \* FROM SCOTT.EMP ORDER BY EMPNO; SELECT \* FROM SCOTT.EMP ORDER BY EMPNO DESC; SELECT \* FROM SCOTT.EMP ORDER BY DEPTNO; SELECT \* FROM SCOTT.EMP ORDER BY DEPTNO, JOB; SELECT \* FROM SCOTT.EMP ORDER BY 3;

SELECT ENAME, JOB,SAL,DEPTNO FROM SCOTT.EMP ORDER BY 2;

SELECT ENAME,JOB,SAL,COMM,SAL\*12 FROM SCOTT.EMP ORDER BY SAL\*12;

SELECT ENAME,JOB,SAL,COMM, SAL\*12 "ANNUAL" FROM SCOTT.EMP ORDER BY "ANNUAL";

WHERE

SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE JOB='MANAGER'; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE DEPTNO <> 20; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE DEPTNO IN (10,30);

SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE JOB IN ('MANAGER', 'CLERK'); SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE DEPTNO NOT IN (10,30); SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE SAL > 2000;

SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE SAL >= 2000; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE SAL < 3000; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE SAL <= 3000;

SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE SAL BETWEEN 2000 AND 3000; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE SAL NOT BETWEEN 2000 AND 3000; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE ENAME LIKE 'S%';

SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE ENAME LIKE '%S'; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE ENAME LIKE '%S%'; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE ENAME LIKE ' '; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE ENAME LIKE '\_\_A%'; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE ENAME NOT LIKE 'S%';

SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20 AND JOB='MANAGER'; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20 OR JOB='MANAGER'; SELECT ENAME,JOB,SAL,DEPTNO FROM SCOTT.EMP WHERE NOT (DEPTNO=20);

SET OPERATORS

CONDITIONS : QUERIES MUST CONTAIN SAME NUMBER OF COLUMS SELECTED, AND CORRESPONING COLUMN MUST BE OF SAME TYPE

UNION

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20 UNION

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE JOB='MANAGER'; UNION ALL

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20 UNION ALL

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE JOB='MANAGER'; INTERSECT

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20 INTERSECT

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE JOB='MANAGER'; MINUS

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE DEPTNO=20 MINUS

SELECT ENAME, JOB,SAL ,COMM, DEPTNO FROM SCOTT.EMP WHERE JOB='MANAGER';

FUNCTIONS

SINGLE ROW FUNCTIONS [CHAR , NUMBER, DATE , CONVERSION]

GROUP FUNCTIONS [SUM, AVERAGE, MAX , MIN, STANDARD DEVIATION , VARIANCE] AND GROUP BY CLAUSE AND HAVING

SINGLE ROW FUNCTIONS:

CHARACTER FUNCTIONS

SELECT ENAME, LENGTH(ENAME), JOB,SAL ,DEPTNO FROM SCOTT.EMP; SELECT ENAME, LOWER(ENAME) , JOB,SAL ,DEPTNO FROM SCOTT.EMP; SELECT ENAME, UPPER(ENAME) , JOB,SAL ,DEPTNO FROM SCOTT.EMP; SELECT ENAME, INITCAP(ENAME) , JOB,SAL ,DEPTNO FROM SCOTT.EMP; SELECT ENAME, SUBSTR(ENAME,3,4) , JOB,SAL ,DEPTNO FROM SCOTT.EMP;

SELECT ENAME, REPLACE(ENAME,'SMITH','FRIEND') , JOB,SAL ,DEPTNO FROM SCOTT.EMP;

SELECT ENAME, DECODE(JOB, 'MANAGER','MGR', 'CLERK', 'CLK', 'OTHERS'),SAL ,DEPTNO FROM SCOTT.EMP;

SELECT ENAME, TRANSLATE(ENAME,'S','Z') , JOB,SAL ,DEPTNO FROM SCOTT.EMP; NUMBER FUNCTIONS

SELECT ABS(-4.5) FROM DUAL; SELECT SQRT(81) FROM DUAL; SELECT POWER(2,3) FROM DUAL; SELECT LOG(10,10) FROM DUAL; SELECT EXP(-1) FROM DUAL;

SELECT GREATEST(2,3) FROM DUAL; SELECT LEAST(2,3) FROM DUAL; SELECT ROUND(56.67) FROM DUAL; SELECT ROUND(56.11) FROM DUAL;

SELECT ROUND(565.678, 0) FROM DUAL; SELECT ROUND(565.678, -1) FROM DUAL; SELECT ROUND(562.678, -1) FROM DUAL; SELECT ROUND(565.678, -2) FROM DUAL; SELECT ROUND(535.678, -2) FROM DUAL; SELECT ROUND(565.678, -3) FROM DUAL; SELECT ROUND(365.678, -3) FROM DUAL; SELECT ROUND(365.678, 3) FROM DUAL; SELECT ROUND(365.678, 2) FROM DUAL;

SELECT ROUND(365.678, 1) FROM DUAL; SELECT CEIL(365.657) FROM DUAL; SELECT FLOOR(365.657) FROM DUAL; DATE FUNCTIONS

SELECT SYSDATE FROM DUAL;

SELECT MONTHS\_BETWEEN(SYSDATE, '25-JAN-22') FROM DUAL; SELECT NEXT\_DAY(SYSDATE,'FRIDAY') FROM DUAL;

SELECT LAST\_DAY(SYSDATE) FROM DUAL;

SELECT TO\_CHAR(SYSDATE, 'HH:MM:SS') FROM DUAL;

GROUP FUNCTIONS [ GROUP BY CONDITIONS. SELECT ONLY THOSE COLUMNS THAT ARE PART OF GROUP BY CLAUSE OR APPLIED WITH GROUP FUNCTIONS ]

SELECT SUM(SAL) FROM SCOTT.EMP; SELECT AVG(SAL) FROM SCOTT.EMP; SELECT MAX(SAL) FROM SCOTT.EMP; SELECT MIN(SAL) FROM SCOTT.EMP; SELECT STDDEV(SAL) FROM SCOTT.EMP; SELECT VARIANCE(SAL) FROM SCOTT.EMP;

SELECT DEPTNO, SUM(SAL) FROM SCOTT.EMP GROUP BY DEPTNO; SELECT JOB, AVG(SAL) FROM SCOTT.EMP GROUP BY JOB;

SELECT DEPTNO, MAX(SAL) FROM SCOTT.EMP GROUP BY DEPTNO;

SELECT DEPTNO, JOB, SUM(SAL) FROM SCOTT.EMP GROUP BY DEPTNO,JOB; SELECT COUNT(\*) FROM SCOTT.EMP;

SELECT COUNT(EMPNO) FROM SCOTT.EMP; SELECT COUNT(COMM) FROM SCOTT.EMP;

SELECT DEPTNO, JOB, COUNT(\*) FROM SCOTT.EMP GROUP BY DEPTNO, JOB ORDER

SELECT DEPTNO, AVG(SAL) FROM SCOTT.EMP GROUP BY DEPTNO HAVING AVG(SAL) > 2000; SELECT DEPTNO, AVG(SAL) FROM SCOTT.EMP HAVING AVG(SAL) > 2000 GROUP BY DEPTNO;

SELECT DEPTNO,AVG(SAL) , COUNT(\*) FROM SCOTT.EMP GROUP BY DEPTNO HAVING COUNT(\*) > 3;BY DEPTNO;

SELECT ROUND(AVG(SAL)) , DEPTNO FROM SCOTT.EMP GROUP BY DEPTNO;

SELECT DEPTNO, JOB, SUM(SAL) FROM SCOTT.EMP WHERE JOB NOT IN ('PRESIDENT') HAVING SUM(SAL) > 1500 GROUP BY DEPTNO, JOB ORDER BY DEPTNO;

SELECT DEPTNO, JOB, SUM(SAL), SUM(COMM) FROM SCOTT.EMP GROUP BY CUBE(DEPTNO, JOB) ORDER BY DEPTNO;

SELECT DEPTNO, JOB, SUM(SAL) FROM SCOTT.EMP GROUP BY ROLLUP(DEPTNO, JOB) ORDER BY DEPTNO;

TOP N ANALYSIS

ROWNUM IS PSEUDO COLUMN TO DISPLAY THE ROW NUMBER SELECT ROWNUM, ENAME,JOB,SAL FROM SCOTT.EMP;

SELECT ROWNUM, ENAME,JOB,SAL FROM ( SELECT \* FROM SCOTT.EMP ORDER BY SAL DESC) WHERE ROWNUM <=5;

SELECT ROWNUM, ENAME,JOB,SAL FROM ( SELECT \* FROM SCOTT.EMP ORDER BY SAL ) WHERE ROWNUM <=5;

SELECT ROWNUM, ENAME,JOB,COMM FROM ( SELECT \* FROM SCOTT.EMP ORDER BY COMM ) WHERE ROWNUM <=5;

JOINS : SELECTING DATA FROM MORE THAN ONE TABLE

CROSS JOIN / CARTISIAN PRODUCT

SELECT ENAME, JOB, SAL, DNAME, LOC FROM SCOTT.EMP, SCOTT.DEPT;

SELECT ENAME, JOB, SAL, DNAME, LOC FROM SCOTT.EMP CROSS JOIN SCOTT.DEPT; EQUI JOIN

SELECT ENAME, JOB, SAL, DNAME, LOC, SCOTT.EMP.DEPTNO FROM SCOTT.EMP , SCOTT.DEPT WHERE SCOTT.EMP.DEPTNO = SCOTT.DEPT.DEPTNO;

NATURAL JOIN

SELECT ENAME, JOB, SAL, DNAME, LOC FROM SCOTT.EMP NATURAL JOIN SCOTT.DEPT; TABLE ALIAS:

SELECT ENAME, JOB, SAL, DNAME, LOC, E.DEPTNO FROM SCOTT.EMP E, SCOTT.DEPT D WHERE E.DEPTNO = D.DEPTNO;

OUTER JOINS

SELECT ENAME, JOB, SAL, DNAME, LOC, E.DEPTNO, D.DEPTNO FROM SCOTT.EMP E, SCOTT.DEPT D WHERE E.DEPTNO (+) = D.DEPTNO;

SELECT ENAME, JOB, SAL, DNAME, LOC, E.DEPTNO, D.DEPTNO FROM SCOTT.EMP E, SCOTT.DEPT D WHERE E.DEPTNO = D.DEPTNO (+);

SELECT ENAME, JOB, SAL, DNAME, LOC, E.DEPTNO, D.DEPTNO FROM SCOTT.EMP E LEFT OUTER JOIN SCOTT.DEPT D ON E.DEPTNO=D.DEPTNO;

SELECT ENAME, JOB, SAL, DNAME, LOC, E.DEPTNO, D.DEPTNO FROM SCOTT.EMP E RIGHT OUTER JOIN SCOTT.DEPT D ON E.DEPTNO=D.DEPTNO;

SELECT ENAME, JOB, SAL, DNAME, LOC, E.DEPTNO, D.DEPTNO FROM SCOTT.EMP E FULL OUTER JOIN SCOTT.DEPT D ON E.DEPTNO=D.DEPTNO;

NON EQUI JOIN

SELECT ENAME,JOB,SAL ,D.DEPTNO FROM SCOTT.EMP E, SCOTT.DEPT D WHERE SAL BETWEEN 1000 AND 2000;

CREATE TABLE SALGRADE(GRADE NUMBER, LOSAL NUMBER, HISAL NUMBER); INSERT INTO SALGRADE VALUES(2, 1001, 2000);

INSERT INTO SALGRADE VALUES(3, 2001, 3000);

INSERT INTO SALGRADE VALUES(4, 3001, 4000);

INSERT INTO SALGRADE VALUES(5, 4001, 5000); SELECT \* FROM SALGRADE;

SELECT E.ENAME,E.JOB,E.SAL ,E.DEPTNO , S.GRADE FROM SCOTT.EMP E, SALGRADE S WHERE SAL BETWEEN LOSAL AND HISAL;

DELETE FROM SALGRADE WHERE GRADE=1; SELF JOIN

SELECT E.ENAME , M.ENAME FROM SCOTT.EMP E, SCOTT.EMP M WHERE M.EMPNO = E.MGR; JOINING MORE THAN 2 TABLES:

SELECT ENAME, JOB,SAL , DNAME, LOC, GRADE FROM SCOTT.EMP, SCOTT.DEPT, SALGRADE WHERE SCOTT.EMP.DEPTNO = SCOTT.DEPT.DEPTNO AND SCOTT.SAL BETWEEN LOSAL AND HISAL;

SUBQUERIES

SELECT \* FROM SCOTT.EMP WHERE SAL > (SELECT SAL FROM SCOTT.EMP WHERE ENAME='ADAMS'); SELECT \* FROM SCOTT.EMP WHERE JOB = (SELECT JOB FROM SCOTT.EMP WHERE ENAME='BLAKE'); SELECT \* FROM SCOTT.EMP WHERE SAL > (SELECT AVG(SAL) FROM SCOTT.EMP);

SELECT \* FROM SCOTT.EMP WHERE SAL >= (SELECT MAX(SAL) FROM SCOTT.EMP);

SELECT \* FROM SCOTT.EMP WHERE SAL IN (SELECT MAX(SAL) FROM SCOTT.EMP GROUP BY DEPTNO); SELECT \* FROM SCOTT.EMP WHERE SAL IN (SELECT MIN(SAL) FROM SCOTT.EMP GROUP BY DEPTNO); SELECT \* FROM SCOTT.EMP WHERE SAL IN (SELECT MAX(SAL) FROM SCOTT.EMP GROUP BY JOB);

SELECT \* FROM SCOTT.EMP WHERE (DEPTNO, SAL) IN (SELECT DEPTNO, MAX(SAL) FROM SCOTT.EMP GROUP BY DEPTNO);

SELECT \* FROM SCOTT.EMP WHERE EXISTS (SELECT \* FROM SCOTT.EMP WHERE DEPTNO=40) ; SELECT ENAME , JOB , (SELECT SAL FROM SCOTT.EMP WHERE ENAME='SCOTT') FROM SCOTT.EMP; SELECT ENAME,JOB,SAL FROM (SELECT \* FROM SCOTT.EMP WHERE DEPTNO=20);

INSERT UPATE DELETE

INSERT INTO SCOTT.EMP(EMPNO, ENAME, SAL, DEPTNO,JOB) VALUES(9999, 'DINESH','3456','40','MANAGER');

INSERT INTO SCOTT.EMP(EMPNO, ENAME, SAL, DEPTNO,JOB) VALUES(9999, 'DINESH',3456,40,'MANAGER');

UPDATE SCOTT.EMP SET SAL= 5000 , JOB='MANAGER' WHERE ENAME='SCOTT'; DELETE FROM SCOTT.EMP WHERE DEPTNO=40;

CREATE ALTER DROP

CREATE TABLE STUDENTS(SID NUMBER, SNAME VARCHAR2(20), SMARKS NUMBER); ALTER TABLE STUDENTS ADD(SPROG VARCHAR2(20));

ALTER TABLE STUDENTS MODIFY(SPROG VARCHAR2(30)); ALTER TABLE STUDENTS DROP COLUMN SPROG;

DROP TABLE STUDENTS;