Class 14

SUB-QUERIES

A query inside a Query.

syntax

select col(s) from <table(S)> where col oper (select col from <table>

where <cond>);

List the emps who are earning morethan SCOTT

SELECT SAL FROM EMP WHERE ENAME LIKE 'SCOTT';

SAL

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3000

select \* from emp where sal>3000;

3000

SQL> SELECT ENAME,JOB,SAL FROM EMP WHERE SAL>(SELECT SAL FROM EMP WHERE ENAME LIKE 'SCOTT');

ENAME JOB SAL

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SCOTT ANALYST 3000

KING PRESIDENT 5000

FORD ANALYST 3000

list the emps who are working in same dept of JONES

SELECT ENAME,JOB,SAL,DEPTNO FROM EMP WHERE DEPTNO = (SELECT DEPTNO FROM EMP WHERE ENAME LIKE 'JONES');

List the emps who are earning morethan REQUIRED ename

SELECT ENAME,JOB,SAL FROM EMP WHERE SAL>=(SELECT SAL FROM EMP WHERE ENAME LIKE '&ename');

SQL> SELECT ENAME,JOB,SAL FROM EMP WHERE SAL<3000;

USING sub -query

SQL> SELECT ENAME,JOB,SAL FROM EMP WHERE SAL< (SELECT SAL FROM EMP WHERE ENAME LIKE 'ALLEN');

ENAME JOB SAL

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SCOTT ANALYST 3000

KING PRESIDENT 5000

FORD ANALYST 3000

* LIST THE emps who are working same job as SMITH sort them by their names

SELECT job FROM EMP WHERE ENAME LIKE 'SMITH';

SELECT \* FROM EMP WHERE JOB LIKE 'CLERK';

SELECT ename,job,sal FROM EMP WHERE JOB LIKE ( SELECT job FROM EMP WHERE ENAME='SMITH' ) ORDER BY ENAME ;

* list the managers who are having only 1 employee

select \* from emp where mgr in(select mgr from emp

group by mgr having count(\*) =1);

\*\*\* multiple row sub query\*\*\*

* List the emps who are doing the same job as in 10 department

SELECT \* FROM EMP WHERE JOB =( SELECT job FROM EMP WHERE DEPTNO=10);

single-row subquery returns more than one row

SELECT \* FROM EMP WHERE JOB IN( SELECT job FROM EMP WHERE DEPTNO=10);

* List the emps who are in the same dept as clerks are working

SELECT ename,job,deptno FROM EMP WHERE deptno IN(select deptno from emp where job='CLERK');

SELECT ename,job,deptno FROM EMP WHERE deptno In(select deptno from emp where job='SALESMAN');

SELECT ename,job,deptno FROM EMP WHERE deptno IN(select deptno from emp where job='SALESMAN');

single-row subquery returns more than one row

* list the emps who are earning more than ALLEN AND working not like WARD

SELECT ename,job,sal,deptno FROM EMP WHERE SAL> (SELECT SAL FROM EMP WHERE ENAME LIKE 'ALLEN')

AND

JOB NOT LIKE (SELECT JOB FROM EMP WHERE ENAME='WARD');

* Retreve the emps who are hired in between MARTIN And MILLER

select ename,job,sal,hiredate from emp where hiredate between

(select HIREDATE from emp where ename='MARTIN')

AND

(select HIREDATE from emp where ename='MILLER');

Recursive join

* retreve the emps who are working same as ALLEN

SELECT \* FROM EMP WHERE JOB=(SELECT JOB FROM EMP WHERE ENAME='ALLEN');

First sub query returns 1 value and main query will be executed based on this.

* List the emps who are earning more than MILLER

SELECT ENAME,JOB,SAL FROM EMP WHERE sal>

(select sal from emp where ename='MILLER');

* List the emps who are working in same dept of BLAKE and SCOTT

select ename,job,sal,deptno from emp where deptno in(

(SELECT DEPTNO FROM EMP WHERE ENAME LIKE 'BLAKE') ,

(SELECT DEPTNO FROM EMP WHERE ENAME LIKE 'SCOTT'));

* List the emps who are working in same dept of SALES

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

AND

E.DEPTNO=(SELECT DEPTNO FROM DEPT WHERE DNAME='SALES');

WITHOUT USING equi join

SELECT ENAME,JOB,SAL,DEPTNO FROM EMP where deptno=(select deptno from dept where dname='SALES');

sql> set linesize 120

FUNCTIONS

pre-defined functions to do the task

categories

1. numerical

2. text

3.date

4.CONVERSION

DUAL table

which is for testing functions or calculations

SQL> SELECT 4543\*53 FROM DUAL;

4543\*53

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240779

SELECT \* FROM DUAL;

D

-

X

abs( )

select abs(-55) from dual; ABSOLUTE

select abs(+55) from dual;

ABS(-55)

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55

SQL> select power(4,3) from dual;

POWER(4,3)

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64

SELECT ROUND(sqrt(10)) from dual;

SQL> select floor(56.999) from dual;

FLOOR(56.999)

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56

select ceil(56.001) from dual;

select round(55.67885,2) from dual;

select tan(90) from dual;

select cos(60) from dual;

select log(10,2) from dual;

SELECT MOD(55,3) FROM DUAL;

Char functions

select upper('welcome') from dual;

select lower(job) from emp;

select initcap('front lineS MEDIA') from dual;

Front Lines Media

SELECT SUBSTR('FRONT LINES MEDIA',7,5) FROM DUAL;

SUBST

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LINES

select initcap(' SQL functions example') from dual;

INITCAP('SQLFU

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Sql Functions

|| concatenation operator

select 'front' || ' lines media' from dual;

select initcap(ename), Initcap(JOB) ,sal from emp;

SELECT TRIM(' ABBC BBD ') FROM DUAL;

List the emps in sentense format

select INITCAP(ename) ||INITCAP( ' is working as ') || Initcap(JOB) || ' and earning salary of '||sal from emp;

INITCAP(ENAME)||'ISWORKINGAS'||JOB||'ANDEARNINGSALARYOF'||SAL

--------------------------------------------------------------

Smith is working as Clerk and earning salary of 800

Allen is working as Salesman and earning salary of 1600

Ward is working as Salesman and earning salary of 1250

Jones is working as Manager and earning salary of 2975

Martin is working as Salesman and earning salary of 1250

Blake is working as Manager and earning salary of 2850

Clark is working as Manager and earning salary of 2450

Scott is working as Analyst and earning salary of 3000

King is working as President and earning salary of 5000

Turner is working as Salesman and earning salary of 1500

Adams is working as Clerk and earning salary of 1100

rpad lpad

select rpad('abc',10,'\*') from dual;

SELECT RPAD(INITCAP(ENAME),10,' ') ||' IS WORKING AS '||rpad(INITCAP(JOB),10,' ')||' AND EARNING SALARYOF'||SAL FROM EMP;

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James is working as Clerk and earning salary of 950

Ford is working as Analyst and earning salary of 3000

Miller is working as Clerk and earning salary of 1300

LTRIM('STR')

select upper(ltrim(' welcome')) from dual;

SELECT LTRIM(' welcome to ')|| 'SQL' from dual;

select upper(ltrim('wel come '))||' TEST' from dual;

select trim(' wel come ')) || ' TEST' from dual;

select trim(' wel come ') || ' TEST' from dual;

select Rtrim(' wel come ') || ' TEST' from dual;

select initcap(' dfkdk') from dual;

select rpad('Oracle',15,'#') from dual;

RPAD('ORACLE',1

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Oracle#########

select lpad(ENAME,10,'\*#') from EMP;

LPAD(ENAME

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\*\*\*\*\*SMITH

\*\*\*\*\*ALLEN

\*\*\*\*\*\*WARD

\*\*\*\*\*JONES

\*\*\*\*MARTIN

\*\*\*\*\*BLAKE

\*\*\*\*\*CLARK

\*\*\*\*\*SCOTT

\*\*\*\*\*\*KING

\*\*\*\*TURNER

\*\*\*\*\*ADAMS

LPAD(ENAME

----------

\*\*\*\*\*JAMES

\*\*\*\*\*\*FORD

\*\*\*\*MILLER

LPAD('ORACLE',1

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#########Oracle

select rpad(lpad(ename,12,'&'),15,'\*') from emp;

Date functions

select sysdate from dual;

SYSDATE current system date and time

DD- MON- YY

select sysdate from dual;

SYSDATE

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30-MAR-23

DATE CONVERSION

DD DAY IN NUMBER

MM MONTH IN NUMBER

MONTH CHAR FULL NAME

MON CHAR 3 LETTERS

Day WEEK DAY IN CHAR WEDNESDAY X Wednesday

DY FIRST THREE CHARS OF THE WEEK

YYYY YEAR WITH CENTURY NUMBER

HH HOURS 12 hour format

HH24 24 HOUR

MI MINUTES

SS SECONDS

SQL> select add\_months(sysdate,-9) from dual;

ADD\_MONTH

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15-SEP-23

List the emps name and their experience in years format

select ename,months\_between(sysdate,hiredate)/12 from emp;

select months\_between('04-feb-23','02-jan-23')\*30 FROM DUAL;

select months\_between(sysdate,'19-08-1999')/12 FROM DUAL;

LAST\_DAY(DATE)

SELECT LAST\_DAY(SYSDATE) FROM DUAL;

SELECT NEXT\_DAY(SYSDATE,'FRIDAY') FROM DUAL;

conversion method

DATE CONVERSION

DD DAY IN NUMBER

MM MONTH IN NUMBER

MONTH CHAR FULL NAME

MON CHAR 3 LETTERS

DAY WEEK DAY IN CHAR

DY FIRST THREE CHARS OF THE WEEK

YYYY YEAR WITH CENTURY NUMBER

HH HOURS

HH24 24 HOUR

MI MINUTES

SS SECONDS

date to char

select to\_char(sysdate,'MONTH ,yyyy,dd DAy HH24:MI:SS ') from dual;

SQL> select to\_char(sysdate,'MONTH ,yyyy,dd DY') from dual;

TO\_CHAR(SYSDATE,'MONTH,YYYY,

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january ,2022,03 MON

SQL> select to\_char(HIREdate,'MON ,yyyy,dd DAY') from EMP;

SQL> select to\_char(TO\_DATE('&DATE'),'Month ,yyyy,dd Day') from dual;

TO\_CHAR(SYSDATE,'MON,Y

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JAN ,2022,03 MONDAY

SELECT TO\_DATE('12-31-2022','MM-DD-YYYY') FROM DUAL;

TO\_DATE('

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31-DEC-22