DATA TYPES

Three most common types of data: strings, numbers and dates

A column’s data types specifies the kind of information of the column is intended to store.

NUMBER

CHAR

VARCHAR2

DATE

TIMESTAMP

NUMBERdatatype:-

Allows store numeric valuesup to 38 digits

Syntax:-

Column number (p)

Column number (p, s)

Column number

p-> precision Default precision 38,

s->scale Default scale -0

For ex:-

A number (3)

-999 to + 999

Practice:-

1234 --error

123.455 –123

123.543 --124

12.56 --13

A number (3,5)

1.Table creates

value larger than specified precision allowed for this column

A number(3,-2)

123 -- 100

A number(\*) --------?

CHAR datatype:-

------

It allows alphanumeric values

By default 1 byte ..Allows upto 2kbytes

a char(3)

Abc --Abc

Abcd --error

Ab.b --error

Ab. --Ab.

1. b --A.b

VARCHAR2(SIZE)

--

Allow alphanumeric values upto 4kbytes.

Memory allocation is dynamic..which means no wastage of memory

A varchar2

A varchar2()

A varchar2(0)

A varchar2(null)

A varchar2(\*)

A varchar2(-1)

A varchar2(1)

Till 11g 4kbytes allowed

32767 bytes (12c)

DATE datatype:-

--

Is a datatype allows us store date and time

A date ---default 7 bytes

select vsize(sysdate) from dual;

Cc yy mon dd hh mi ss

Default display --dd-mon-yy

Oracle follows Julian calendar 1-jan-4712 B.C to 31-dec-9999 A.D

Problem--Fraction of second not possible to store

SQL> insert into t values('31-jul-15 12:30:03');

Insert into t values('31-jul-15 12:30:03')

\*

ERROR at line 1:

ORA-01830: date format picture ends before converting entire input string

Insert into t values (to\_date('31-jul-15 12:30:03','dd-mon-yy hh:mi:ss'));

TIMESTAMP datatype:-

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

Cc yy mon dd hh mi ss ff

create table t(a timestamp);

desc t;

insert into t values('12-jan-15 12:00:01');

LONG

--------

Character data of variable length upto 2 gb

RAW(size)

--

Raw binary data of length size bytes.maximum size is 2kbytes.

Long raw:

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Raw binary data of variable length up to 2 gb.

CLOB

-----

A character large object containing single-byte characters,Both fixed-width and variable-width character sets are grouped,both using the CHAR database character set.maximum size and default is 4000 bytes.

Blob

--

A binary large object.Maximum size is 4 gb.

Bfile

------

Contains a locator to a large binary file stored outside the db.

Binary\_float:

--

32-bit single precision floating point number datatype.

Binary\_double:

--

64-bit double precision floating point number datatype.

DATA DEFINITION LANGUAGE (DDL)

->create

->alter

->drop

->truncate

->rename

Create command: - is used to create the table structure in the database.

Syntax:- create table tablename(col1 datatype(size),col2 datatype(size),……);

Guide lines:-

1. tablename should start with alphabet
2. $,\_,# allowed
3. Maxsize of tablename should be lessthan 30 chars
4. Upto 1000 columns can create in table (oracle 11g)
5. Atleast one column must present

create table emp9$#(empn\_no number(4));

create table 9emp$#(empn\_no number(4));

create table emp\*123(empn\_no number(4));

create table 9emp$#(empn\_no number(4),date date);

alter command:- is used to modify the structure of the table

Add

drop

Rename

Modify

Incr/decr field size

Changing datatype

Changing from null to not null

Changing fomr not null to null

Adding a column:-

Syntax:- alter table tablename add columname datatype(size);

Alter table emp9$# add (dob date);

Dropping a column:-

Syntax:- alter table tablename drop column datatype(size);

Alter table emp9$# drop column dob;

Rename a column:-

Syntax:- alter table tablename rename column oldname to newname;

Alter table emp9$# rename column empn\_no to empno;

Modify a column:-

Syntax:- alter table tablename modify columname datatype;

Alter table emp9$# modify (empno number(10));

Alter table emp9$# modify (empno varchar2(10));

Alter table emp9$# modify (empno not null);

Alter table emp9$# modify (empno null);

Truncate command:- is used to delete the data from the table at once

Syntax:-Truncate table tablename;

truncate table emp9$#;

Rename command:- is used to rename old tablename to new tablename

Syntax:-rename oldname to newname;

rename emp9$# to emp2;

Drop command:- is used to drop the objects in the database

Syntax:-Drop table tablename;

Drop table emp2;

DML STATEMENTS

->insert

->update

->delete

->insert all

->merge

Insert command:- is used to add the row into the table

Insert into tablename values(value1,value2,value3,…………..);

For ex:-

Insert into emp values(1234,’lak’,’clerk’,7902,sysdate,800,null,20);

Create same structure of the table:-

Syntax:- create table tablename as select \* from tablename where condition;

create table temp\_emp as select \* from emp where 1!=1;

Desc command:- is sql\*plus command is used to see the structure of the table

Syntax:- desc tablename;

Desc temp\_emp;

Select \* from temp\_emp;

insert into temp\_emp select \* from emp; --copying data from one table to other

update command:- is used to modify the data in a table

syntax:- update tablename set column=value1,column=value2,….[where condition]

update temp\_emp set comm=500;

update temp\_emp set comm=500 where comm is null;

pl/sql:-

variable sumsal number;

update temp\_emp set sal=sal\*1.2 where deptno=10

returning sum(sal) into :sumsal;

print :sumsal

SUMSAL

------

10500

select sum(sal) from emp where deptno=10;

8750

Delete command: - is used to delete the records from the table or

is to entirely remove a record from the database

DELETE FROM *tablename* WHERE *condition*

delete from temp\_emp where empno=7379

delete from temp\_emp;

Insert all

create table temp1 as select empno,ename,sal from emp where 1!=1;

create table temp2 as select empno,ename,sal from emp where 1!=1;

select \* from temp1;

select \* from temp2;

Unconditional insert

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

insert all

into temp1 values(empno,ename,sal)

into temp2 values(empno,ename,sal)

select empno,ename,sal from emp;

Conditional insert

insert all

When ENAME='SMITH' then

into temp1 values(empno,ename,sal)

When ENAME='KING' then

into temp2 values(empno,ename,sal)

select empno,ename,sal from emp;

merge(upsert->update+insert)

create table emps(empno number,ename varchar2(1),sal number);

create table empt(empno number,ename varchar2(1),sal number);

select \* from emps;

EMPNO E SAL

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

1 A 5000

2 B 3000

3 C 4000

4 D 6000

select \* from empt;

EMPNO E SAL

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

1 A 2000

2 B 3000

3 C 4000

merge into empt t

using emps s

on(s.empno=t.empno)

when matched then

update set t.ename=s.ename,t.sal =s.sal

when not matched then

insert values(s.empno,s.ename,s.sal);

SELECT STATEMENT:-is used to fetch the data from table

Syntax of select statement:-

Select columns

From tablename;

SQL> select;

SQL> select 10

SQL> select 10 from;

SQL> select 10 from xyz;

SQL> select 10 from emp;

SQL> select 20 from dept;

SQL> select 'oracle' from emp;

Selecting one column of the emp table.

SQL> select sal from emp;

Selecting one column and alias

SQL> select sal,sal\*12 annualsal

2 from emp;

SQL> select sal,sal\*12 "annualsal"

2 from emp;

SQL> select sal,sal\*12 annual sal

2 from emp;

select sal,sal\*12 annual sal

\*

ERROR at line 1:

ORA-00923: FROM keyword not found where expected

Selecting one column alias with two words

SQL> select sal,sal\*12 "annual sal"

2 from emp;

Selecting unique records, eliminating duplicate records

SQL> select distinct sal,sal from emp;

SQL> select distinct sal,comm from emp;

SQL> select distinct job

2 from emp;

SQL> select distinct job,sal

2 from emp;

SELECT STATEMENT WITH WHERE CLAUSE:-

Syntax:- select columns

From tablename

Where condition;

Where condition:- is used to filter the records from the table based on one or more condition

Condition- true,false,null

1 select \*

2 from emp

3\* where ename='smith'

Selecting smith employee

1 select \*

2 from emp

3\* where ename='SMITH'

Selecting 10 th department detials

1 select \*

2 from emp

3\* where deptno=10

Compound conditions:-

Logical operators:-

And

Or

Not

And:- returns true when both conditions are true

Selecting 10 th department details and king employee

sql> select \*

2 from emp

3 where deptno=10 and ename='king';

Selecting 10 th department details and king employee and salary is 5000

1 select \*

2 from emp

3\* where deptno=10 and ename='king' and sal=5000;

Selecting 10 th department details and king employee and salary is 1000

1 select \*

2 from emp

3\* where deptno=10 and ename='king' and sal=1000

Or operator:-

True:- either conditions are true

sql> select \*

2 from emp

3 where deptno=10 or deptno=20;

1 select \*

2 from emp

3\* where deptno=10 or ename='king' or sal=1000

Not operator:-

True-> not false

False-> not true

Select \* from emp where deptno<>10;

Select \* from emp where not deptno=10;

Selecting all employees based on salary is greater than 1000 and less than 3000

sql> select \* from emp where sal>=1000 and sal<=3000;

BETWEEN OPERATOR:- is used for range of values

1 select \*

2 from emp

3\* where sal between 1000 and 3000;

1 select \*

2 from emp

3\* where sal between 3000 and 1000;

IN OPERATOR:-is a membership operator

1 select \*

2 from emp

3\* where deptno in (10,20,40)

LIKE OPERATOR:-is used for pattern matching

sql> select \*

2 from emp

3 where ename like '%';

Selecting all the employees whose names starts with S

1 select \*

2 from emp

3\* where ename like 's%'

Selecting all the employees whose ename last from 2nd letter is A

1 select \*

2 from emp

3\* where ename like 'a\_'

1 select \*

2 from emp

3\* where ename like 'a\_%'

Is null:-

sql> select \*

2 from emp

3 where comm='';

NULL VALUE:-is undefined values

1 select \*

2 from emp

3\* where comm=null

1 select \*

2 from emp

3\* where comm is null

1 select \*

2 from emp

3\* where comm is not null

Selecting all employees who are not belong to 10 th and 20 th departments

sql> select \*

2 from emp

3 where deptno not in (10,20);

ORDER BY CLAUSE:-used to arrange the records either asending order or desending order

sql> select empno,sal

2 from emp

3 order by sal,empno;

sql> select deptno,sal

2 from emp

3 order by sal,deptno;

sql> select deptno,sal

2 from emp

3 order by deptno,sal;

1 select deptno,sal

2 from emp

3\* order by 1,2

1 select deptno,sal

2 from emp

3\* order by 1,2 desc

sql> select \* from emp

2 order by 8;

sql> select \* from emp

2 order by 9;

order by 9

\*

error at line 2:

ora-01785: order by item must be the number of a select-list expression

sql> select \* from emp

2 where deptno=30

3 order by 8;

sql> select \* from emp

2 where deptno in (30,20)

3 order by 8,6 desc;

BUILT IN FUNCTIONS:-

functions are built in programs which returns value.

single row functions

multi row functions

Dual table is a system defined table

which contains single row and single column.

Sys is the owner for the table.

Is used for testing expressions or functions….

SQL> select 'computer' from dual;

SQL> select 20+30 from dual;

LOWER():-

Converts into lower case

SQL> select lower('COMPUTER') FROM DUAL;

SQL> select 'COMPUTER',lower('COMPUTER') FROM DUAL;

SQL> select 'COMPUTER',lower('COMPUTER'),LOWER('COMPUTER') FROM DUAL;

UPPER():-

Converts into upper case

SQL> SELECT UPPER('computer') from dual;

INITCAP():-

First letter will be upper case

SQL> select initcap('computer') from dual;

SUBSTR(string,position,no of char):-is used to extact part of the string

SQL> select substr('computer',1) from dual;

SQL> select substr('computer',1,3) from dual;

SQL> select substr('computer',1,-1) from dual;

SQL> select substr('computer',-1,-1) from dual;

SQL> select substr('computer',-5,3) from dual;

SQL> select substr('computer',0) from dual;

INSTR(string,char,position,occurrence):-

Used to find the position of a letter

SQL> select instr('computer','e',1,1) from dual;

SQL> select instr('computer','e') from dual;

SQL> select instr('computer','e',1,-1) from dual;

select instr('computer','e',1,-1) from dual

\*

ERROR at line 1:

ORA-01428: argument '-1' is out of range

SQL> select instr('ecomputer','e',-1,2) from dual;

SQL> select instr('ecomputer','e',0,2) from dual;

SQL> select instr('ecomputer','e',1,2) from dual;

SQL> select instr('ecomputer','e',0,1) from dual;

SQL> select instr(substr('computer',2),'e') from dual;

LENGTH():-

Used to find the length of string

SQL> select length('abc') from dual;

Reverse(arg):- used to reverse a string

SQL> select reverse('abc') from dual;

Replace(string1,string2,string3):- is used to replace word by word

SQL> select replace('computer','om','puri') from dual;

SQL> select replace('computer','o','puri') from dual;

SQL> select replace('computer','o') from dual;

Translate(string1,string2,string3):- is used to translate char by char

SQL> select translate('computer','computer','abcdef') from dual;

SQL> select translate('computer','omputer','aacaef') from dual;

LTRIM():-

Used to remove the spaces and characters from left

SQL> select ltrim('eewelcomee','e') from dual;

SQL> select rtrim('eewelcomee','e') from dual;

SQL> select ltrim(' welcome '),rtrim(' welcome ') from dual;

TRIM():-

SQL> select trim('e' from 'eeewelcomeee') from dual;

SQL> select trim(trailing 'e' from 'eeewelcomeee') from dual;

SQL> select trim(leading 'e' from 'eeewelcomeee') from dual;

SQL> select trim(' welcome ') from dual;

SQL> select trim('we' from 'eewelcome') from dual;

select trim('we' from 'eewelcome') from dual

\*

ERROR at line 1:

ORA-30001: trim set should have only one character

LPAD(string,size,symbol):-

Appends the symbols left side of the string

SQL> select lpad('abc',5,'@' ) from dual;

RPAD(string,size,symbol):-

Appends the symbols right side of the string

SQL> select rpad('abc',5,'\*' ) from dual;

SQL> select rpad('abc',5 ) from dual;

SQL> select rpad('abc',3,'\*' ) from dual;

SQL> select rpad('abc',-4,'\*' ) from dual;

SQL> select rpad('abc',2,'\*' ) from dual;

SQL> select lpad('abc',2,'\*' ) from dual;

SQL> select lpad('abc',0,'\*' ) from dual;

Ceil() and floor():-

SQL> select ceil(12.0001),floor(12.99) from dual;

CEIL(12.0001) FLOOR(12.99)

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

13 12

SQL> select ceil(-12.0001),floor(12.99) from dual;

CEIL(-12.0001) FLOOR(12.99)

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

-12 12

SQL> select ceil(-12.0001),floor(-12.99) from dual;

CEIL(-12.0001) FLOOR(-12.99)

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

-12 -13

ROUND():-

SQL> select round(16.7895,2) from dual;

ROUND(16.7895,2)

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

16.79

SQL> select round(16.7895,1) from dual;

ROUND(16.7895,1)

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

16.8

SQL> select round(16.7895,4) from dual;

ROUND(16.7895,4)

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

16.7895

SQL> select round(16.7895,0) from dual;

ROUND(16.7895,0)

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

17

SQL> select round(16.7895,-1) from dual;

ROUND(16.7895,-1)

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

20

SQL> select round(64.7895,-2) from dual;

ROUND(64.7895,-2)

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

100

SQL> select round(-64.7895,-2) from dual;

ROUND(-64.7895,-2)

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

-100

SQL> select round(647895,2) from dual;

ROUND(647895,2)

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

647895

SQL> select round(69.845) from dual;

ROUND(69.845)

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

70

SQL> select round(69.845,-3) from dual;

ROUND(69.845,-3)

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

0

SQL> select trunc(12.67) from dual;

TRUNC(12.67)

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

12

SQL> select trunc(12.67,1) from dual;

TRUNC(12.67,1)

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12.6

SQL> select trunc(12.67,2) from dual;

TRUNC(12.67,2)

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

12.67

SQL> select trunc(12.67,3) from dual;

TRUNC(12.67,3)

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

12.67

SQL> select trunc(12.67,-1) from dual;

TRUNC(12.67,-1)

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

10

SQL> select trunc(12.67,-2) from dual;

TRUNC(12.67,-2)

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

0

SQL> select trunc(12.67,-3) from dual;

TRUNC(12.67,-3)

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

0

SQL> select sysdate from dual;

SYSDATE

---------

28-JUL-15

SQL> alter session set nls\_date\_format='DD-MON-YY HH24:MI:SS';

Session altered.

SQL> select sysdate from dual;

SYSDATE

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

28-JUL-15 20:15:13

SQL> select sysdate+1 from dual;

SYSDATE+1

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

29-JUL-15 20:15:22

SQL> select sysdate-2 from dual;

SYSDATE-2

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

26-JUL-15 20:15:34

SQL> select sysdate/2 from dual;

select sysdate/2 from dual

\*

ERROR at line 1:

ORA-00932: inconsistent datatypes: expected NUMBER got DATE

SQL> select sysdate+35 from dual;

SYSDATE+35

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

01-SEP-15 20:15:51

SQL> select sysdate+sysdate from dual;

select sysdate+sysdate from dual

\*

ERROR at line 1:

ORA-00975: date + date not allowed

SQL> select sysdate-sysdate from dual;

SYSDATE-SYSDATE

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

0

SQL> select sysdate/sysdate from dual;

select sysdate/sysdate from dual

\*

ERROR at line 1:

ORA-00932: inconsistent datatypes: expected NUMBER got DATE

SQL> select sysdate\*sysdate from dual;

select sysdate\*sysdate from dual

\*

ERROR at line 1:

ORA-00932: inconsistent datatypes: expected NUMBER got DATE

SQL> select sysdate+1/24 from dual;

SYSDATE+1/24

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

28-JUL-15 21:16:32

SQL> select add\_months(sysdate,1) from dual;

ADD\_MONTHS(SYSDATE

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

28-AUG-15 20:18:07

SQL> select add\_months(sysdate,-1) from dual;

ADD\_MONTHS(SYSDATE

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

28-JUN-15 20:18:12

SQL> select sysdate,hiredate from emp;

SYSDATE HIREDATE

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

28-JUL-15 20:18:33 17-DEC-80 00:00:00

28-JUL-15 20:18:33 20-FEB-81 00:00:00

28-JUL-15 20:18:33 22-FEB-81 00:00:00

28-JUL-15 20:18:33 02-APR-81 00:00:00

28-JUL-15 20:18:33 28-SEP-81 00:00:00

28-JUL-15 20:18:33 01-MAY-81 00:00:00

28-JUL-15 20:18:33 09-JUN-81 00:00:00

28-JUL-15 20:18:33 19-APR-87 00:00:00

28-JUL-15 20:18:33 17-NOV-81 00:00:00

28-JUL-15 20:18:33 08-SEP-81 00:00:00

28-JUL-15 20:18:33 23-MAY-87 00:00:00

28-JUL-15 20:18:33 03-DEC-81 00:00:00

28-JUL-15 20:18:33 03-DEC-81 00:00:00

28-JUL-15 20:18:33 23-JAN-82 00:00:00

14 rows selected.

SQL> select months\_between(sysdate,hiredate) from emp;

MONTHS\_BETWEEN(SYSDATE,HIREDATE)

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

415.382141

413.285367

413.220851

411.866012

406

410.89827

409.640206

339.317625

404.382141

406.672464

338.188593

403.833754

403.833754

402.188593

14 rows selected.

SQL> select trunc(months\_between(sysdate,hiredate)/12) from emp;

TRUNC(MONTHS\_BETWEEN(SYSDATE,HIREDATE)/12)

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

34

34

34

34

33

34

34

28

33

33

28

33

33

33

14 rows selected.

SQL> select sysdate,round(sysdate,'year'),trunc(sysdate,'year') from dual;

SYSDATE ROUND(SYSDATE,'YEA TRUNC(SYSDATE,'YEA

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

28-JUL-15 20:20:02 01-JAN-16 00:00:00 01-JAN-15 00:00:00

SQL> select sysdate,round(sysdate,'month'),trunc(sysdate,'month') from dual;

SYSDATE ROUND(SYSDATE,'MON TRUNC(SYSDATE,'MON

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

28-JUL-15 20:20:34 01-AUG-15 00:00:00 01-JUL-15 00:00:00

SQL> select sysdate,round(sysdate,'day'),trunc(sysdate,'day') from dual;

SYSDATE ROUND(SYSDATE,'DAY TRUNC(SYSDATE,'DAY

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

28-JUL-15 20:21:01 26-JUL-15 00:00:00 26-JUL-15 00:00:00

SQL> select sysdate,round(sysdate,'dd'),trunc(sysdate,'dd') from dual;

SYSDATE ROUND(SYSDATE,'DD' TRUNC(SYSDATE,'DD'

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

28-JUL-15 20:21:29 29-JUL-15 00:00:00 28-JUL-15 00:00:00

SQL> select last\_day(sysdate) from dual;

LAST\_DAY(SYSDATE)

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

31-JUL-15 20:21:57

SQL> select next\_day(sysdate,'mon') from dual;

NEXT\_DAY(SYSDATE,'

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

03-AUG-15 20:22:18

SQL> select extract(year from sysdate) from dual;

EXTRACT(YEARFROMSYSDATE)

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

2015

SQL> select extract(month from sysdate) from dual;

EXTRACT(MONTHFROMSYSDATE)

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

7

SQL> select extract(day from sysdate) from dual;

EXTRACT(DAYFROMSYSDATE)

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

28

SQL> select to\_char(sysdate,'day') from dual;

TO\_CHAR(SYSDATE,'DAY')

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

wednesday

SQL> select to\_char(sysdate,'mm/dd/yy') from dual;

TO\_CHAR(

--------

07/29/15

SQL> select \* from emp

2 where to\_char(hiredate,'yy')=81;

10 rows selected.

SQL> select \* from emp

2 where to\_char(hiredate,'mm')=02;

SQL> select to\_char(sysdate,'DDTH "OF" MONTH') FROM DUAL;

TO\_CHAR(SYSDATE,'DDTH"OF"MONTH')

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

29TH OF JULY

SQL> SELECT TO\_DATE('30/07/15','dd/mm/yy') from dual;

TO\_DATE('

---------

30-JUL-15

SQL> select to\_date('08/aug/1992','dd/mon/yyyy') from dual;

TO\_DATE('

---------

08-AUG-92

SQL> select to\_char(to\_date('08/aug/1992','dd/mon/yyyy'),'day') from dual;

TO\_CHAR(T

---------

saturday

SQL> select sal,to\_char(sal,'$99,999.99') from emp;

SAL TO\_CHAR(SAL

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

800 $800.00

1600 $1,600.00

1250 $1,250.00

2975 $2,975.00

1250 $1,250.00

2850 $2,850.00

2450 $2,450.00

3000 $3,000.00

5000 $5,000.00

1500 $1,500.00

1100 $1,100.00

950 $950.00

3000 $3,000.00

1300 $1,300.00

14 rows selected.

SQL> select sal,to\_char(sal,'$00,000.00') from emp;

SAL TO\_CHAR(SAL

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

800 $00,800.00

1600 $01,600.00

1250 $01,250.00

2975 $02,975.00

1250 $01,250.00

2850 $02,850.00

2450 $02,450.00

3000 $03,000.00

5000 $05,000.00

1500 $01,500.00

1100 $01,100.00

950 $00,950.00

3000 $03,000.00

1300 $01,300.00

14 rows selected.

SQL> select to\_char(10000,'$99,999.99') from dual;

TO\_CHAR(100

-----------

$10,000.00

SQL> select '10'+10 from dual;

'10'+10

----------

20

SQL> select '1,0'+10 from dual;

select '1,0'+10 from dual

\*

ERROR at line 1:

ORA-01722: invalid number

SQL> select to\_number('1,0','9,9')+10 from dual;

TO\_NUMBER('1,0','9,9')+10

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

20

SQL> select to\_number('$10,000.00','$99,999.99') from dual;

TO\_NUMBER('$10,000.00','$99,999.99')

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

10000

SQL> select sal,comm,sal+comm from emp;

SQL> select sal,comm,sal+nvl(comm,0) from emp;

SQL> select nvl2(comm,sal+comm,sal) from emp;

SQL> select nullif(1,2),nullif(1,1) from dual;

NULLIF(1,2) NULLIF(1,1)

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

1

SQL> select coalesce(null,3,null,4,null) from dual;

COALESCE(NULL,3,NULL,4,NULL)

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

3

SQL> select user,uid from dual;

USER UID

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

SCOTT 48

SQL> select greatest(1,2,3,4,5) from dual;

GREATEST(1,2,3,4,5)

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

5

SQL> select least(1,2,3,4,5) from dual;

LEAST(1,2,3,4,5)

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

1

MULTIROW FUNCTIONS

Multirow functions are also called group or aggregate functions works with group of rows.

Multi row functions operates on multiple values and gives a single result

These functions ignore null values

Avg()

The avg() function returns the average value of a numeric field from group of rows.

SELECT AVG(SAL) FROM EMP;

Returns the average salary of all employees.

Count()

SELECT COUNT(\*) FROM EMP;

SELECT COUNT(COMM) FROM EMP;

SUM()

select sum(sal) from emp;

MAX()

select max(sal) from emp;

MIN()

select min(sal) from emp;

Structure of the select statement:-

Select ...

From ....

Where ...

Group by ...

Having .....

Order by ...

Class notes

Joins :- Cartesian,inner joins,outer joins,self-join,natural join

Integrity constraints:-not null,unique,check,primary key,foreign key

Tcl commands:-commit,savepoint,rollback

Db objects:- views,sequence,synonyms,index….etc

Oracle subqueries

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

Subquery:-

Query with in a query is called subquery

The output of the inner query gives input to outer query

Outer query can be SELECT,INSERT,UPDATE,DELETE

Inner query must be always SELECT

Subqueries can be appear in WHERE CLAUSE,HAVING CLAUSE,FROM CLAUSE,SELECT CLAUSE

Different types of subqueries:

single row

multi row

multi column

co-related

inline view

scalar subquery

SINGLE ROW

In single row subquery only one row will display

Syntax:-

SELECT <collist> FROM <tabname.

WHERE colname operator (SELECT statement)

Subquery in where clause:

Display the employees whose job is the same as that of employee OF smith

SQL> select ename,job from emp where job=(select job from emp where ename='SMITH');

ENAME JOB

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

SMITH CLERK

ADAMS CLERK

JAMES CLERK

MILLER CLERK

SQL> select ename,job from emp where job=(select job from emp where ename='SMITH') AND ENAME<>'SMITH';

ENAME JOB

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

ADAMS CLERK

JAMES CLERK

MILLER CLERK

Display all records except last record?

select \* from emp where rowid<(select max(rowid) from emp);

display deptno,maximum salary of each deptno,the max salary should be more than 30th deptno.

SQL> select deptno,max(sal)

2 from emp

3 group by deptno

4 having max(sal)>(select max(sal)

5 from emp

6 where deptno=30);

DEPTNO MAX(SAL)

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

20 3000

10 5000

Find the job with the lowest average salary.

SQL> select job,avg(sal)

2 from emp

3 group by job

4 having avg(sal)=(select min(avg(sal)) from emp group by job);

JOB AVG(SAL)

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

CLERK 1037.5

Subqueries in update statement:-

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

Update employee salary to maximum salary whose empno=7369?

Update emp set sal=(select max(sal) from emp where empno=7369)

Subqueries in delete statement:-

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

Delete employee record whose job equals to job of smith?

Delete from emp where job=(select job from emp where ename=’SMITH’)

multi row subqueries

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

Subquery returns more than one row

in

any/some

all

IN

---

Display employee record whose job equals to job of smith or job of blake?

Select \* from emp where job in (select job from emp where ename in (‘SMITH’,’BLAKE’);

ANY

----

Compares a value to each value in a list or returned by query.must be preceded by =,!=,>,<,<=,>= evaluates to false if the query returns no rows.

display the employees those employees salary matched with any top salary of each of departments

select ename,sal,deptno from emp where sal in (select max(sal) from emp group by deptno);

<ANY --Less than Maximum salary

SQL> select sal from emp where job='SALESMAN';

SAL

----------

1600

1250

1250

1500

display the employees those who are having salary less than top salary of salesman

SQL> select ename,sal from emp where sal< any(select sal from emp where job='SALESMAN');

ENAME SAL

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

SMITH 800

JAMES 950

ADAMS 1100

WARD 1250

MARTIN 1250

MILLER 1300

TURNER 1500

7 rows selected.

>any more than minsal

SQL> select ename,sal from emp where sal> any(select sal from emp where job='SALESMAN');

ENAME SAL

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

KING 5000

FORD 3000

SCOTT 3000

JONES 2975

BLAKE 2850

CLARK 2450

ALLEN 1600

TURNER 1500

MILLER 1300

ALL

---------

Compares a value to every value in a list or returned by query.must be preceded by =,!=,>,<,<=,>= evaluates to TRUE if the query returns no rows

>all more than highest sal

SQL> select ename,sal from emp where sal> all(select sal from emp where job='SALESMAN');

ENAME SAL

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

CLARK 2450

BLAKE 2850

JONES 2975

SCOTT 3000

FORD 3000

KING 5000

<all

SQL> select ename,sal from emp where sal< all(select sal from emp where job='SALESMAN');

ENAME SAL

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

ADAMS 1100

JAMES 950

SMITH 800

=any == IN

=all == nrs

<>all ==not in

pairwise comparision

If inner query returns more than one column value then it is called MULTI COLUMN subquery.

insert into emp(empno,ename,sal,deptno)

values(1001,'lak',3000,10)

/

select ename,sal,deptno from emp where (deptno,sal) in (select deptno, max(sal) from emp group by deptno);

select ename,sal,deptno

from emp

where sal in (select max(sal) from emp group by deptno)

and deptno in (select deptno from emp group by deptno);

null values in subquery

display the employees thoose who are having manager

select \*from emp where empno in (select mgr from emp);

select \*from emp where empno not in (select mgr from emp);

select \*from emp where empno not in (select mgr from emp where mgr is not null) ;

IN-LINE VIEWS

The inline view is a construct in oracle sql where you can place a query in the SQL FROM clause. Just as if the query was a table name. A common use of in-line views to simplify complex queries by removing join operation and converting separate queries into single query.

Using in-line view

--

Column alias can be used in WHERE clause

Display top 3 maximum salaries in EMP table.

Select sal from (select distinct sal from emp order by sal desc)

Where rownum <=3;

CO-RELATED subqueries:-

If a subquery references one or more columns of parent query is called co-related subquery because it is related to outer query.this subquery executes once for each and every row of main query.

Display employee names earning more than avg(sal) of their dept?

Select ename from emp e where sal >(select avg(sal) from emp where deptno=e.deptno);

Display enames earning more than their manager?

Select ename from emp e where sal > (select sal from emp where empno=e.mgr);

Delete duplicate records in a table?

Display top 3 maximum salaries in emp table.

select distinct sal from emp e where 3>(select count(distinct sal) from emp b where e.sal<b.sal);

Using EXIST operator:-

Exists operator returns TRUE OR FALSE.

If query returns at least one record then exists return TRUE other wise returns FALSE

Display dept which not empty?

Select \*from dept d where exists(select \* from emp where deptno=d.deptno);

Display dept which is empty?

Select \*from dept d where not exists(select \* from emp where deptno=d.deptno);

Schema

A schema is associated with a password

A database can have n number of users

A user/schema is a logical connection of database objects

Creating a new user:-

Step1:- login as system or sys user

Step2:-create user apple identified by apple123;

Step3:-grant connect, resource to apple;

Change the password

Alter user apple identified by apple

Alter user apple account lock;

Alter user apple account unlock

Drop user apple

Assignment:

Create user called Blake and create some of table under him.

DATA CONTROL LANGUAGE

Grant :-grants privileges to a user

Revoke:- it takes back to granted privileges from the user.

Privilege:- A privilege is a permission to perform a db activity

Two types

System

Object

System privilege: they help to create or alter the database object.

Create table

Create view

This are generally managed by admin user

Grant create view,create table to blake;

Revoke create view from blake;

Object privilege:-

This are provided on a particular object

Select

Insert

Update

Delete

Execute

Reference

All

Grant select on emp to apple

Scott

Select \* from emp:

Ford

Select \*from emp;

Select \*from scott.emp;

Scott

Grant select on emp to apple

Grant all on emp to apple

Revoke select on emp from apple

Apple

Select \*from emp;

Select \*from scott.emp;

Delete from scott.emp;

We can grant mulitiple privileges to multiple users at once on same object

Grant delete,insert on emp to ford,apple

Not possible to provide th privileges on multiple objects at once

Grant insert on emp,delete on dept to apple

Role

----

A role is a database object which consists of one or more privileges in it.

A role is a set of privileges

A role can contain both system and object privileges

It helps for a dba to manage users and their privileges

Any changes done to role will automatically given to all the granted user

Create role test\_role

Grant create table,create view,create synonym to test\_role

Grant test\_role to user1,user2,user3

Revoke create table from test\_role

DEFAULT ROLE

Connect -> permits to connect db

Resource -> helps to create basic db objects like table/synonym/etc

Dba -> all the system privilege

Grant dba to scott

SAVEPOINT

-----------

Insert

Update

Save point x;

Delete

Rollback to x;

Insert

Update

Save point x;

Delete

insert

Update

Save point x

Delete

Commit;

Rollback to x;

Insert

Save point x

Delete

Save point y

Update

Rollback to x;

Rollback to y;

SQL QUESTION AND ANSWERS FOR PRACTICE

1) Display the details of all employees

SQL>Select \* from emp;

2) Display the depart information from department table

SQL>select \* from dept;

3) Display the name and job for all the employees

SQL>select ename,job from emp;

4) Display the name and salary for all the employees

SQL>select ename,sal from emp;

5) Display the employee no and totalsalary for all the employees

SQL>select empno,ename,sal,comm, sal+nvl(comm,0) as"total salary" from

emp

6) Display the employee name and annual salary for all employees.

SQL>select ename, 12\*(sal+nvl(comm,0)) as "annual Sal" from emp

7) Display the names of all the employees who are working in depart number 10.

SQL>select emame from emp where deptno=10;

8) Display the names of all the employees who are working as clerks and

drawing a salary more than 3000.

SQL>select ename from emp where job='CLERK' and sal>3000;

9) Display the employee number and name who are earning comm.

SQL>select empno,ename from emp where comm is not null;

10) Display the employee number and name who do not earn any comm.

SQL>select empno,ename from emp where comm is null;

11) Display the names of employees who are working as clerks,salesman or

analyst and drawing a salary more than 3000.

SQL>select ename from emp where job='CLERK' OR JOB='SALESMAN'

OR JOB='ANALYST' AND SAL>3000;

12) Display the names of the employees who are working in the company for

the past 5 years;

SQL>select ename from emp where to\_char(sysdate,'YYYY')-to\_char(hiredate,'YYYY')>=5;

13) Display the list of employees who have joined the company before

30-JUN-90 or after 31-DEC-90.

a)select ename from emp where hiredate < '30-JUN-1990' or hiredate >

'31-DEC-90';

14) Display current Date.

SQL>select sysdate from dual;

15) Display the list of all users in your database(use catalog table).

SQL>select username from all\_users;

16) Display the names of all tables from current user;

SQL>select tname from tab;

17) Display the name of the current user.

SQL>show user

18) Display the names of employees working in depart number 10 or 20 or 40

or employees working as

CLERKS,SALESMAN or ANALYST.

SQL>select ename from emp where deptno in(10,20,40) or job

in('CLERKS','SALESMAN','ANALYST');

19) Display the names of employees whose name starts with alaphabet S.

SQL>select ename from emp where ename like 'S%';

20) Display the Employee names for employees whose name ends with alaphabet S.

SQL>select ename from emp where ename like '%S';

21) Display the names of employees whose names have second alphabet A in

their names.

SQL>select ename from emp where ename like '\_A%';

22) select the names of the employee whose names is exactly five characters

in length.

SQL>select ename from emp where length(ename)=5;

23) Display the names of the employee who are not working as MANAGERS.

SQL>select ename from emp where job not in('MANAGER');

24) Display the names of the employee who are not working as SALESMAN OR

CLERK OR ANALYST.

SQL>select ename from emp where job not

in('SALESMAN','CLERK','ANALYST');

25) Display all rows from emp table.The system should wait after every

screen full of informaction.

SQL>set pause on

26) Display the total number of employee working in the company.

SQL>select count(\*) from emp;

27) Display the total salary beiging paid to all employees.

SQL>select sum(sal) from emp;

28) Display the maximum salary from emp table.

SQL>select max(sal) from emp;

29) Display the minimum salary from emp table.

SQL>select min(sal) from emp;

30) Display the average salary from emp table.

SQL>select avg(sal) from emp;

31) Display the maximum salary being paid to CLERK.

SQL>select max(sal) from emp where job='CLERK';

32) Display the maximum salary being paid to depart number 20.

SQL>select max(sal) from emp where deptno=20;

33) Display the minimum salary being paid to any SALESMAN.

SQL>select min(sal) from emp where job='SALESMAN';

34) Display the average salary drawn by MANAGERS.

SQL>select avg(sal) from emp where job='MANAGER';

35) Display the total salary drawn by ANALYST working in depart number 40.

SQL>select sum(sal) from emp where job='ANALYST' and deptno=40;

36) Display the names of the employee in order of salary i.e the name of

the employee earning lowest salary should salary appear first.

SQL>select ename from emp order by sal;

37) Display the names of the employee in descending order of salary.

a)select ename from emp order by sal desc;

38) Display the names of the employee in order of employee name.

a)select ename from emp order by ename;

39) Display empno,ename,deptno,sal sort the output first base on name and

within name by deptno and with in deptno by sal.

SQL>select empno,ename,deptno,sal from emp order by

40) Display the name of the employee along with their annual salary(sal\*12).The name of the employee earning highest annual salary should apper first.

SQL>select ename,sal\*12 from emp order by sal desc;

41) Display name,salary,hra,pf,da,total salary for each employee. The

output should be in the order of total salary,hra 15% of salary,da 10% of salary,pf 5%

salary,total salary will be(salary+hra+da)-pf.

SQL>select ename,sal,sal/100\*15 as hra,sal/100\*5 as pf,sal/100\*10 as

da, sal+sal/100\*15+sal/100\*10-sal/100\*5 as total from emp;

42) Display depart numbers and total number of employees working in each

department.

SQL>select deptno,count(deptno)from emp group by deptno;

43) Display the various jobs and total number of employees within each job

group.

SQL>select job,count(job)from emp group by job;

44) Display the depart numbers and total salary for each department.

SQL>select deptno,sum(sal) from emp group by deptno;

45) Display the depart numbers and max salary for each department.

SQL>select deptno,max(sal) from emp group by deptno;

46) Display the various jobs and total salary for each job

SQL>select job,sum(sal) from emp group by job;

47) Display the various jobs and total salary for each job

SQL>select job,min(sal) from emp group by job;

48) Display the depart numbers with more than three employees in each dept.

SQL>select deptno,count(deptno) from emp group by deptno having

count(\*)>3;

49) Display the various jobs along with total salary for each of the jobs

where total salary is greater than 40000.

SQL>select job,sum(sal) from emp group by job having sum(sal)>40000;

50) Display the various jobs along with total number of employees in each

job.The output should contain only those jobs with more than three employees.

SQL>select job,count(empno) from emp group by job having count(job)>3

51) Display the name of the empployee who earns highest salary.

SQL>select ename from emp where sal=(select max(sal) from emp);

52) Display the employee number and name for employee working as clerk and

earning highest salary among clerks.

SQL>select empno,ename from emp where where job='CLERK'

and sal=(select max(sal) from emp where job='CLERK');

53) Display the names of salesman who earns a salary more than the highest

salary of any clerk.

SQL>select ename,sal from emp where job='SALESMAN' and sal>(select

max(sal) from emp

where job='CLERK');

54) Display the names of clerks who earn a salary more than the lowest

salary of any salesman.

SQL>select ename from emp where job='CLERK' and sal>(select min(sal)

from emp

where job='SALESMAN');

Display the names of employees who earn a salary more than that of

Jones or that of salary grether than that of scott.

SQL>select ename,sal from emp where sal>

(select sal from emp where ename='JONES')and sal> (select sal from emp

where ename='SCOTT');

55) Display the names of the employees who earn highest salary in their

respective departments.

SQL>select ename,sal,deptno from emp where sal in(select max(sal) from

emp group by deptno);

56) Display the names of the employees who earn highest salaries in their

respective job groups.

SQL>select ename,sal,job from emp where sal in(select max(sal) from emp

group by job)

57) Display the employee names who are working in accounting department.

SQL>select ename from emp where deptno=(select deptno from dept where

dname='ACCOUNTING')

58) Display the employee names who are working in Chicago.

SQL>select ename from emp where deptno=(select deptno from dept where

LOC='CHICAGO')

59) Display the Job groups having total salary greater than the maximum

salary for managers.

SQL>SELECT JOB,SUM(SAL) FROM EMP GROUP BY JOB HAVING SUM(SAL)>(SELECT

MAX(SAL) FROM EMP WHERE JOB='MANAGER');

60) Display the names of employees from department number 10 with salary

grether than that of any employee working in other department.

SQL>select ename from emp where deptno=10 and sal>any(select sal from

emp where deptno not in 10).

61) Display the names of the employees from department number 10 with

salary greater than that of all employee working in other departments.

SQL>select ename from emp where deptno=10 and sal>all(select sal from

emp where deptno not in 10).

62) Display the names of the employees in Uppercase.

SQL>select upper(ename)from emp

63) Display the names of the employees in Lowecase.

SQL>select lower(ename)from emp

64) Display the names of the employees in Propercase.

SQL>select initcap(ename)from emp;

65) Display the length of Your name using appropriate function.

SQL>select length('name') from dual

66) Display the length of all the employee names.

SQL>select length(ename) from emp;

67) select name of the employee concatenate with employee number.

SQL>select ename||empno from emp;

68) User appropriate function and extract 3 characters starting from 2

characters from the following string 'Oracle'. i.e the out put should be 'ac'.

SQL>select substr('oracle',3,2) from dual

69) Find the First occurance of character 'a' from the following string i.e

'Computer Maintenance Corporation'.

SQL>SELECT INSTR('Computer Maintenance Corporation','a',1) FROM DUAL

70) Replace every occurance of alphabhet A with B in the string Allens(use

translate function)

SQL>select translate('Allens','A','B') from dual

71) Display the informaction from emp table.Where job manager is found it

should be displayed as boos(Use replace function).

SQL>select replace(JOB,'MANAGER','BOSS') FROM EMP;

72) Display empno,ename,deptno from emp table.Instead of display department

numbers display the related department name(Use decode function).

SQL>select empno,ename,decode(deptno,10,'ACCOUNTING',20,'RESEARCH',30,'SALES',40,'OPRATIONS') from emp;

73) Display your age in days.

SQL>select to\_date(sysdate)-to\_date('10-sep-77')from dual

74) Display your age in months.

SQL>select months\_between(sysdate,'10-sep-77') from dual

75) Display the current date as 15th Augest Friday Nineteen Ninety Saven.

SQL>select to\_char(sysdate,'ddth Month day year') from dual

76) Display the following output for each row from emp table.

scott has joined the company on wednesday 13th August ninten nintey.

SQL>select ENAME||' HAS JOINED THE COMPANY ON '||to\_char(HIREDATE,'day

ddth Month year') from EMP;

77) Find the date for nearest saturday after current date.

SQL>SELECT NEXT\_DAY(SYSDATE,'SATURDAY')FROM DUAL;

78) Display current time.

SQL>select to\_char(sysdate,'hh:MM:ss') from dual.

79) Display the date three months Before the current date.

SQL>select add\_months(sysdate,3) from dual;

80) Display the common jobs from department number 10 and 20.

SQL>select job from emp where deptno=10 and job in(select job from emp

where deptno=20);

81) Display the jobs found in department 10 and 20 Eliminate duplicate jobs.

SQL>select distinct(job) from emp where deptno=10 or deptno=20

(or)

SQL>select distinct(job) from emp where deptno in(10,20);

82) Display the jobs which are unique to department 10.

SQL>select distinct(job) from emp where deptno=10

83) Display the details of those who do not have any person working under them.

SQL>select e.ename from emp,emp e where emp.mgr=e.empno group by

e.ename having count(\*)=1;

84) Display the details of those employees who are in sales department and

grade is 3.

SQL>select \* from emp where deptno=(select deptno from dept where

dname='SALES')and sal between(select losal from salgrade where grade=3)and

(select hisal from salgrade where grade=3);

85) Display those who are not managers and who are managers any one.

i)display the managers names

SQL>select distinct(m.ename) from emp e,emp m where m.empno=e.mgr;

ii)display the who are not managers

SQL>select ename from emp where ename not in(select distinct(m.ename)

from emp e,emp m where m.empno=e.mgr);

86) Display those employee whose name contains not less than 4 characters.

SQL>select ename from emp where length(ename)>4;

87) Display those department whose name start with "S" while the location

name ends with "K".

SQL>select dname from dept where dname like 'S%' and loc like '%K';

88) Display those employees whose manager name is JONES.

SQL>select p.ename from emp e,emp p where e.empno=p.mgr and

e.ename='JONES';

89) Display those employees whose salary is more than 3000 after giving 20%

increment.

SQL>select ename,sal from emp where (sal+sal\*.2)>3000;

90) Display all employees while their dept names;

SQL>select ename,dname from emp,dept where emp.deptno=dept.deptno

91) Display ename who are working in sales dept.

SQL>select ename from emp where deptno=(select deptno from dept where

dname='SALES');

92) Display employee name,deptname,salary and comm for those sal in between

2000 to 5000 while location is chicago.

SQL>select ename,dname,sal,comm from emp,dept where sal between 2000

and 5000

and loc='CHICAGO' and emp.deptno=dept.deptno;

93)Display those employees whose salary greter than his manager salary.

SQL>select p.ename from emp e,emp p where e.empno=p.mgr and p.sal>e.sal

94) Display those employees who are working in the same dept where his

manager is work.

SQL>select p.ename from emp e,emp p where e.empno=p.mgr and

p.deptno=e.deptno;

95) Display those employees who are not working under any manager.

SQL>select ename from emp where mgr is null

96) Display grade and employees name for the dept no 10 or 30 but grade is

not 4 while joined the company before 31-dec-82.

SQL>select ename,grade from emp,salgrade where sal between losal and

hisal and deptno in(10,30) and grade<>4 and hiredate<'31-DEC-82';

97) Update the salary of each employee by 10% increment who are not

eligiblw for commission.

SQL>update emp set sal=sal+sal\*10/100 where comm is null;

98) SELECT those employee who joined the company before 31-dec-82 while

their dept location is newyork or Chicago.

SQL>SELECT EMPNO,ENAME,HIREDATE,DNAME,LOC FROM EMP,DEPT

WHERE (EMP.DEPTNO=DEPT.DEPTNO)AND

HIREDATE <'31-DEC-82' AND DEPT.LOC IN('CHICAGO','NEW YORK');

99) DISPLAY EMPLOYEE NAME,JOB,DEPARTMENT,LOCATION FOR ALL WHO ARE WORKING

AS MANAGER?

SQL>select ename,JOB,DNAME,LOCATION from emp,DEPT where mgr is not

null;

100) DISPLAY THOSE EMPLOYEES WHOSE MANAGER NAME IS JONES? --

[AND ALSO DISPLAY THEIR MANAGER NAME]?

SQL> SELECT P.ENAME FROM EMP E, EMP P WHERE E.EMPNO=P.MGR AND

E.ENAME='JONES';

101) Display name and salary of ford if his salary is equal to hisal of his

grade

a)select ename,sal,grade from emp,salgrade where sal between losal and

hisal

and ename ='FORD' AND HISAL=SAL;

102) Display employee name,job,depart name ,manager name,his grade and make

out an under department wise?

SQL>SELECT E.ENAME,E.JOB,DNAME,EMP.ENAME,GRADE FROM EMP,EMP

E,SALGRADE,DEPT

WHERE EMP.SAL BETWEEN LOSAL AND HISAL AND EMP.EMPNO=E.MGR

AND EMP.DEPTNO=DEPT.DEPTNO ORDER BY DNAME

103) List out all employees name,job,salary,grade and depart name for every

one in the company except 'CLERK'.Sort on salary display the highest salary?

SQL>SELECT ENAME,JOB,DNAME,SAL,GRADE FROM EMP,SALGRADE,DEPT WHERE

SAL BETWEEN LOSAL AND HISAL AND EMP.DEPTNO=DEPT.DEPTNO AND JOB

NOT IN('CLERK')ORDER BY SAL ASC;

104) Display the employee name,job and his manager.Display also employee who

are without manager?

SQL>select e.ename,e.job,eMP.ename AS Manager from emp,emp e where

emp.empno(+)=e.mgr

105) Find out the top 5 earners of company?

SQL>SELECT DISTINCT SAL FROM EMP E WHERE 5>=(SELECT COUNT(DISTINCT SAL)

FROM

EMP A WHERE A.SAL>=E.SAL)ORDER BY SAL DESC;

106) Display name of those employee who are getting the highest salary?

SQL>select ename from emp where sal=(select max(sal) from emp);

107) Display those employee whose salary is equal to average of maximum and

minimum?

SQL>select ename from emp where sal=(select max(sal)+min(sal)/2 from

emp);

108) Select count of employee in each department where count greater than 3?

SQL>select count(\*) from emp group by deptno having count(deptno)>3

109) Display dname where at least 3 are working and display only department

name?

SQL>select distinct d.dname from dept d,emp e where d.deptno=e.deptno

and 3>any

(select count(deptno) from emp group by deptno)

110) Display name of those managers name whose salary is more than average

salary of his company?

SQL>SELECT E.ENAME,EMP.ENAME FROM EMP,EMP E

WHERE EMP.EMPNO=E.MGR AND E.SAL>(SELECT AVG(SAL) FROM EMP);

111)Display those managers name whose salary is more than average salary of

his employee?

SQL>SELECT DISTINCT EMP.ENAME FROM EMP,EMP E WHERE

E.SAL <(SELECT AVG(EMP.SAL) FROM EMP

WHERE EMP.EMPNO=E.MGR GROUP BY EMP.ENAME) AND

EMP.EMPNO=E.MGR;

112) Display employee name,sal,comm and net pay for those employee

whose net pay is greter than or equal to any other employee salary of

the company?

SQL>select ename,sal,comm,sal+nvl(comm,0) as NetPay from emp

where sal+nvl(comm,0) >any (select sal from emp)

113) Display all employees names with total sal of company with each

employee name?

SQL>SELECT ENAME,(SELECT SUM(SAL) FROM EMP) FROM EMP;

114) Find out last 5(least)earners of the company.?

SQL>SELECT DISTINCT SAL FROM EMP E WHERE

5>=(SELECT COUNT(DISTINCT SAL) FROM EMP A WHERE

A.SAL<=E.SAL)

ORDER BY SAL DESC;

115) Find out the number of employees whose salary is greater than their

manager salary?

SQL>SELECT E.ENAME FROM EMP ,EMP E WHERE EMP.EMPNO=E.MGR

AND EMP.SAL<E.SAL;

116) Display those department where no employee working?

SQL>select dname from emp,dept where emp.deptno not in(emp.deptno)

117) Display those employee whose salary is ODD value?

SQL>select \* from emp where sal<0;

118) Display those employee whose salary contains alleast 3 digits?

SQL>select \* from emp where length(sal)>=3;

119) Display those employee who joined in the company in the month of Dec?

SQL>select ename from emp where to\_char(hiredate,'MON')='DEC';

120) Display those employees whose name contains "A"?

SQL>select ename from emp where instr(ename,'A')>0;

or

SQL>select ename from emp where ename like('%A%');

121) Display those employee whose deptno is available in salary?

SQL>select emp.ename from emp, emp e where emp.sal=e.deptno;

122) Display those employee whose first 2 characters from hiredate -last 2

characters of salary?

SQL>select ename,SUBSTR(hiredate,1,2)||ENAME||substr(sal,-2,2) from emp

123) Display those employee whose 10% of salary is equal to the year of

joining?

SQL>select ename from emp where to\_char(hiredate,'YY')=sal\*0.1;

124) Display those employee who are working in sales or research?

SQL>SELECT ENAME FROM EMP WHERE DEPTNO IN(SELECT DEPTNO FROM DEPT WHERE

DNAME IN('SALES','RESEARCH'));

125) Display the grade of jones?

SQL>SELECT ENAME,GRADE FROM EMP,SALGRADE

WHERE SAL BETWEEN LOSAL AND HISAL AND Ename='JONES';

126) Display those employees who joined the company before 15 of the month?

a)select ename from emp where to\_char(hiredate,'DD')<15;

127) Display those employee who has joined before 15th of the month.

a)select ename from emp where to\_char(hiredate,'DD')<15;

128) Delete those records where no of employees in a particular department

is less than 3.

SQL>delete from emp where deptno=(select deptno from emp

group by deptno having count(deptno)<3);

129) Display the name of the department where no employee working.

SQL> SELECT E.ENAME,E.JOB,M.ENAME,M.JOB FROM EMP E,EMP M

WHERE E.MGR=M.EMPNO

130) Display those employees who are working as manager.

SQL>SELECT M.ENAME MANAGER FROM EMP M ,EMP E

WHERE E.MGR=M.EMPNO GROUP BY M.ENAME

131) Display those employees whose grade is equal to any number of sal but

not equal to first number of sal?

SQL> SELECT ENAME,GRADE FROM EMP,SALGRADE

WHERE GRADE NOT IN(SELECT SUBSTR(SAL,0,1)FROM EMP)

132) Print the details of all the employees who are Sub-ordinate to BLAKE?

SQL>select emp.ename from emp, emp e where emp.mgr=e.empno and

e.ename='BLAKE';

133) Display employee name and his salary whose salary is greater than

highest average of department number?

SQL>SELECT SAL FROM EMP WHERE SAL>(SELECT MAX(AVG(SAL)) FROM EMP

GROUP BY DEPTNO);

134) Display the 10th record of emp table(without using rowid)

SQL>SELECT \* FROM EMP WHERE ROWNUM<11

MINUS

SELECT \* FROM EMP WHERE ROWNUM<10

135) Display the half of the ename's in upper case and remaining lowercase?

SQL>SELECT

SUBSTR(LOWER(ENAME),1,3)||SUBSTR(UPPER(ENAME),3,LENGTH(ENAME))

FROM EMP;

136) Display the 10th record of emp table without using group by and rowid?

SQL>SELECT \* FROM EMP WHERE ROWNUM<11

MINUS

SELECT \* FROM EMP WHERE ROWNUM<10

Delete the 10th record of emp table.

SQL>DELETE FROM EMP WHERE EMPNO=(SELECT EMPNO FROM EMP WHERE ROWNUM<11

MINUS

SELECT EMPNO FROM EMP WHERE ROWNUM<10)

137) Create a copy of emp table;

SQL>create table new\_table as select \* from emp where 1=2;

138) Select ename if ename exists more than once.

SQL>select ename from emp e group by ename having count(\*)>1;

139) Display all enames in reverse order?(SMITH:HTIMS).

SQL>SELECT REVERSE(ENAME)FROM EMP;

140) Display those employee whose joining of month and grade is equal.

SQL>SELECT ENAME FROM EMP WHERE SAL BETWEEN

(SELECT LOSAL FROM SALGRADE WHERE

GRADE=TO\_CHAR(HIREDATE,'MM')) AND

(SELECT HISAL FROM SALGRADE WHERE

GRADE=TO\_CHAR(HIREDATE,'MM'));

141) Display those employee whose joining DATE is available in deptno.

SQL>SELECT ENAME FROM EMP WHERE TO\_CHAR(HIREDATE,'DD')=DEPTNO

142) Display those employees name as follows

A ALLEN

B BLAKE

SQL> SELECT SUBSTR(ENAME,1,1),ENAME FROM EMP;

143) List out the employees ename,sal,PF(20% OF SAL) from emp;

SQL>SELECT ENAME,SAL,SAL\*.2 AS PF FROM EMP;

144) Create table emp with only one column empno;

SQL>Create table emp as select empno from emp where 1=2;

145) Add this column to emp table ename vrachar2(20).

SQL>alter table emp add(ename varchar2(20));

146) Oops I forgot give the primary key constraint. Add in now.

SQL>alter table emp add primary key(empno);

147) Now increase the length of ename column to 30 characters.

SQL>alter table emp modify(ename varchar2(30));

148) Add salary column to emp table.

SQL>alter table emp add(sal number(10));

149) I want to give a validation saying that salary cannot be greater 10,000

(note give a name to this constraint)

SQL>alter table emp add constraint chk\_001 check(sal<=10000)

150) For the time being I have decided that I will not impose this validation.My boss has agreed to pay more than 10,000.

SQL>again alter the table or drop constraint with alter table emp drop constraint chk\_001 (or)Disable the constraint by using alter table emp modify constraint chk\_001 disable;

151) My boss has changed his mind. Now he doesn't want to pay more than

10,000.so revoke that salary constraint.

SQL>alter table emp modify constraint chk\_001 enable;

152) Add column called as mgr to your emp table;

SQL>alter table emp add(mgr number(5));

153) Oh! This column should be related to empno. Give a command to add this

constraint.

SQL>ALTER TABLE EMP ADD CONSTRAINT MGR\_DEPT FOREIGN KEY(MGR) REFERENCES

EMP(EMPNO)

154) Add deptno column to your emp table;

SQL>alter table emp add(deptno number(5));

155) This deptno column should be related to deptno column of dept table;

SQL>alter table emp add constraint dept\_001 foreign key(deptno)

reference dept(deptno)

[deptno should be primary key]

156) Give the command to add the constraint.

SQL>alter table <table\_name) add constraint <constraint\_name>

<constraint type>

157) Create table called as newemp. Using single command create this table

as well as get data into this table(use create table as);

SQL>create table newemp as select \* from emp;

SQL>Create table called as newemp. This table should contain only

empno,ename,dname.

SQL>create table newemp as select empno,ename,dname from emp,dept where

1=2;

158) Delete the rows of employees who are working in the company for more

than 2 years.

SQL>delete from emp where (sysdate-hiredate)/365>2;

159) Provide a commission(10% Comm Of Sal) to employees who are not earning

any commission.

SQL>select sal\*0.1 from emp where comm is null

160) If any employee has commission his commission should be incremented by

10% of his salary.

SQL>update emp set comm=sal\*.1 where comm is not null;

161) Display employee name and department name for each employee.

SQL>select empno,dname from emp,dept where emp.deptno=dept.deptno

162)Display employee number,name and location of the department in which he

is working.

SQL>select empno,ename,loc,dname from emp,dept where

emp.deptno=dept.deptno;

163) Display ename,dname even if there are no employees working in a

particular department(use outer join).

SQL>select ename,dname from emp,dept where emp.deptno=dept.deptno(+)

164) Display employee name and his manager name.

SQL>select p.ename,e.ename from emp e,emp p where e.empno=p.mgr;

165) Display the department name and total number of employees in each

department.

SQL>select dname,count(ename) from emp,dept where

emp.deptno=dept.deptno group by dname;

166)Display the department name along with total salary in each department.

SQL>select dname,sum(sal) from emp,dept where emp.deptno=dept.deptno

group by dname;

167) Display itemname and total sales amount for each item.

SQL>select itemname,sum(amount) from item group by itemname;

168) Write a Query To Delete The Repeted Rows from emp table;

SQL>Delete from emp where rowid not in(select min(rowid)from emp group

by ename)

169) TO DISPLAY 5 TO 7 ROWS FROM A TABLE

SQL>select ename from emp

where rowid in(select rowid from emp where rownum<=7

minus

select rowid from empi where rownum<5)

170) DISPLAY TOP N ROWS FROM TABLE?

SQL>SELECT \* FROM

(SELECT \* FROM EMP ORDER BY ENAME DESC)

WHERE ROWNUM <10;

171) display top 3 salaries from emp;

sql>select sal from ( select \* from emp order by sal desc )

where rownum <4

172) display 9th from the emp table?

sql>select ename from emp

where rowid=(select rowid from emp where rownum<=10

minus

select rowid from emp where rownum <10)

select second max salary from emp;

select max(sal) fromemp where sal<(select max(sal) from emp);

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