22-Oct-2021

Database Tester Roles and Responsibiities-----

1.Table structure validation/Metadata Testing

- Validate database name as per srs document.

- Validate table name as per srs document.

- Validate total columns as per srs.

- Validate each column name from table as per srs.

- Validate the sequence of column

- Validate data type of each column

- Validate data type size/length of each column.

2. Will check the impact of front end application on backend.

3. Involved in Constraint Validation.

Create Command---- It used to create the table with required columns.

create table Cred_emp_regi_t9 (eid number(7) , Firstname varchar2(35) , Lastname varchar2(25) , Mobile varchar2(16), address varchar2(35));

1000000

Q. How to display table info?----Ineterview Qusetion

---Yes Ofcourse. We use Describe command to display table info.

describe Cred_emp_regi_t9;

23 Oct 2021

Insert Command- insert the rows/records into table.

101 Yusuf Tamboli 9766545454 Pune

102 Priya Patil 9878787878 Mumbai

103, Priti Singh +91-9878787878 Delhi

104 Amit Singh +91-9878787878 Delhi

106 yusuf tamboli +91-9878787878 Delhi

insert into Cred_emp_regi_t9 values (101,'Yusuf','Tamboli', 9766545454,'Pune');

insert into Cred_emp_regi_t9 values (102, 'Priya','Patil',9878787878,'Mumbai');

insert into Cred_emp_regi_t9 values (103, 'Priti','Singh','+91-9878787878','Delhi');

insert into Cred_emp_regi_t9 values (104, 'Amit','Singh', '+91-9878787878','Delhi');

insert into Cred_emp_regi_t8 values (106, 'amir','tamboli','+91-9878787878','Delhi');

+91-8787878787

Select Command- display table data/selects records/rows from table

How to dispaly table data?

```
SELECT *  From cred_emp_regi_t9;
```

*-----All data/rows/records from table

Table data is case sensitive.

Yusuf

yusuf

YUSUF

YuSUF

YUSuf

All above are different enames.

***** Database engine/Sql engine is responsible for executing the query.******

select eid, firstname from Cred_emp_regi_t8;

select lastname, firstname from Cred_emp_regi_t8;

select address,eid,mobile from Cred_emp_regi_t8;

SQL Clauses----Where,group by ,having,order by

where---- It applies filter on table rows based on specific conditions.

select * from emp where eadd = 'Pune'

select ename,esal,edept from emp where eadd = 'Pune'

Mum=Pune

Mum=Pune

delhi=Pune

Pune=Pune

select * from emp where eid = 101;

select firstname,lastname from cred_emp_regi_T8 where eid = 102;

select firstname,lastname from cred_emp_regi_t8 where eid = 101;

select * from cred_emp_regi_T8 where firstname='Amit';

select * from cred_emp_regi_t8 where firstname='Yusuf';

select * from cred_emp_regi_T8 where firstname='yusuf';

select * from cred_emp_regi_T8 where mobile='9766545454';

insert into cred_emp_regi_T8 values (107, 'Abhay','More','Mum');----It will not run.....shows error as 'not enough values'

Second way of inserting the rows using insert command

insert into cred_emp_regi_T8 (eid,firstname,lastname,address) values(107,'Abhay','More','Mum');

select * from cred_emp_regi_T8;

insert into cred_emp_regi_T8 (eid,mobile,address) values(118,8766722458,'Pune');

insert into cred_emp_regi_T8 (Firstname,lastname) values('Akshay','Patil');

insert into cred_emp_regi_T8 (eid) values(112);

insert into cred_emp_regi_T8 (Address,Mobile,eid) values('Pune',98989898,114);

select * from cred_emp_regi_T8;

Null---- It is value which we dont know what it is. i.e Unknown Value

is null---

It is used to identify null values from perticular column and display its resp. records from table.

select * from empinfo12345 where ename is null;---It will dipslay null values from ename column

select * from empinfo12345 where ename= 'null';---It will display rows who havong ename = 'null'...i.e 'null' is a string

select * from empinfo12345 where ename is null;

select * from empinfo12345 where ename= 'null';

select * from empinfo12345 where ename is not null;

28th Oct 2021

Update Command

Q. How to update salary with 60000 from table whose ename is 'Sachin'.------Capgemini 3+years Interview Quest.

update empinfo12345

set esal=90000

where ename='Nik';

Update ename with 'Akash' whose eid is 110

update empinfo12345

set ename='Akash'

where eid=110;

update ecity with newyork where ecity is mumbai

update empinfo12345 set ecity='WDC' where ecity='Nagpur';

update empinfo12345

set ename='Supriya'

where eid=102;

select * from emp;

update emp

where ename='Sachin'

set esal=60000;----------Wrong Query

update empinfo12345

set esal=70000

* How to update 2 values from table?

-Update esal with 125000 and ecity with newyork where eid =107

update emp

set esal=125000,eadd='Newyork',edept='mech'

where eid=108;

select * from emp

Q. How to update salry with null value whose name is 'Shivani'?

update empinfo12345

set esal= ''

where ename ='Shivani'

*****How to delete single coulmn value from table?****

update empinfo12345

set esal=''

where ename= 'Nik';

update empinfo12345

set esal= 50000

where esal is null;

05 Aug 2021

Delete Command--

delete from emp where eid=101

select * from emp

delete from emp where eid =103;

delete * from emp where eid =103;---Wrong Query

delete from emp;

Is null keyword----It is used to identify null values from perticular column and display its resp. records from table.

How to identify null values from your table?

select * from emp_info1234 where ecity is null;

select eid,ecity from emp_info1234 where ename is null;

select * from emp_info1234 where ename is null;

select * from emp_info1234 where ecity is not null;

How to delete null value rows from your table?

delete from emp where edept is null;

*****How to delete single coulmn value from table?****

We can not use delete command for this scenario.

We have to use update only with below syntax.

update empinfo12345

set esal=''

where ename= 'Nik';

29th Oct 2021

SQL Operators-----

Arithmatic

Compariosn

Logical

Concatanition

Like

Set---Will cover in last session of sql.

1.Arithmatic

+, -, *, /

select * from employee11;

select (esal+eincent) from employee11;

select eid,ename,ecity,(esal+eincent) from employee11;

select eid,ename,ecity,(esal+eincent) as Total_Salary from employee11;-----Used Alias Concept for esal+einncent column.

How to select total columns from table with addition of two columns?

select * , (esal+eincent) from employee11---It will not run

select employee11.* , (esal+eincent) as Total_Salary from employee11

select employee11.*,(esal+eincent) as Total_Salary from employee11 where eid=103 ;

select (esal-eincent) from employee11

select ename,eid,ecity,(esal-eincent) as Deducted_Salary from employee11;

select employee11.*,(esal-eincent) as Deducted_Salary from employee11;

select customer_info.*, (Total_bill_amt-Paid_bill_amt) as Due_bill_amt from customer_info;

select (esal*eincent)from employee11

select ename,eid,ecity,(esal*eincent) as TotalSalary from employee11;

select employee11.*,(esal*eincent) as TotalSalary from employee11;

select (esal/eincent) from employee11

select ename,eid,ecity,esal,eincent,(esal/eincent) as TotalSalary from employee11;

select employee11.*,(esal/eincent) as TotalSalary from employee11

2. Comparision

select * from employee11

select * from employee11 where esal = 90000

select * from employee11 where esal < 90000

select * from employee11 where esal <= 90000

select * from employee11 where esal > 90000

select * from employee11 where esal >= 90000

select * from emp where esal != 80000

select * from employee11 where ename != 'Yusuf'

select * from employee11 where ename = 'Yusuf'

30th Oct 2021

Do u know Between Operator?

Between Operator---- It will filter the possible range of values from column. It applies on Numeric and date values.

50000 to 60000

select * from emp where esal between 50000 and 70000

Not Between

select * from emp where esal not between 50000 and 70000

In -----It filter the perticular set of values from column. It applies on Numeric,alphabets and date values.

50000 80000 90000

select * from emp where esal in (50000,80000,35000);

Not in

select * from emp where esal not in (50000,80000,35000);

select * from emp where ename in ('Pooja','Amruta');

select * from emp where ename not in ('Pooja','Amruta');

3. Concatinition--- || ---It combines the values of 2 columns.

select * from employee11

select * from Cred_emp_regi_t8

select firstname||Lastname from Cred_emp_regi_t8

josesteacy

select Cred_emp_regi_t8.*, firstname||Lastname from Cred_emp_regi_t8

select Cred_emp_regi_t8.*, (firstname|| ' ' || Lastname) from Cred_emp_regi_t8

select Cred_emp_regi_t8.*, (firstname|| ' ' || Lastname) as FullName from Cred_emp_regi_t8

select (esal || ' ' ||eincent) from employee11;

select (ename || ' ' || ecity || ' ' || eid) from employee11;

select (esal || '_' || eincent) as esal_eincent from employee11;

select (ename || '_' || edept) as ename_edept from employee11;

select (ename || '_' || ecity) as ename_edept from employee11;

select employee11.*,(ename|| '_' ||edept) as ename_edept from employee11;

Q. How to concat firstname and lastname from table?

select (firstname || lastname) from emp

select (firstname || lastname) as Fullname from emp

select (firstname || '_' || lastname) as Fullname from emp-----Citius Tech

31st Oct 2021

Logical Operator

And Or Not

And

i1 i2 o/p

T T T

T F F

F T F

F F F

select * from emp where edept= 'cse' and eid=101;

select * from emp where ename='Yusuf' and Eadd ='Pune';

select * from emp where edept= 'cse' and eadd is null;

Or

i1 i2 o/p

T T T

T F T

F T T

F F F

select * from emp where eid=101 and esal=80000

select * from emp where ename='Yusuf' or Eadd ='Pune';

select * from emp where eid=101 or ename='Yusuf';

select * from emp where eid=101 or eid =112;

Not

i/p o/p

T F

F T

where not(esal=80000)

select * from emp where not (esal=80000)----I want salaries other than 80000.

select * from emp where not (esal is null)------ Want to display emp salaries who has no null values in resp column.

select * from emp where (eid=101 and esal =80000) or (edept='it');

select * from employee_info2 where ename='unknown' and eid=181 and ecity ='J and K' or eid =112;

select * from emp where ename='Amit' or (eid=101 and eadd ='Pune') or edept='mech';

select * from emp where (ename='Amit' and eadd='Newyork') or (ename='Yusuf' and eadd='Pune');

Like Operator----Most of the companies will ask question on like operator.

It is used for pattern/String search. It is case sensitive.

There are 2 wild card keys.

1. %---unknown length of string

2. _ ---- One Unknown character.

describe emp;

Q1. display the rows whose ename starts with N

select * from emp where ename like 'N%';

Q2. display the rows whose ename ends with 'h' ---- '%h'

select * from emp where ename like '%h'

Q3. display the rows whose ename's second char starts with 'a'----- '_a%'

select * from emp where ename like '_a%';

Q4. display the rows whose ename's second last char is 'y'--- '%y_'

select * from emp where ename like '%u_'

Q5. display the rows whose ename's third char starts with 'i'--- '__i%'

select * from emp where ename like '__i%'

Q6. display the rows whose ename's third last char ends with 'r'--- '%r__'

select * from emp where ename like '%r__'

Q7.display exactly 5 char string from ename column.

select * from emp where ename like '_____'

Q8. display the rows whose ename contains 'a'

select * from emp where ename like '%a%';

Q9. display the rows whose ename contains 'a' and 'A'

select * from emp where ename like '%a%' or ename like '%A%';

Q10. display the rows whose ename Starts with Y and ends with f

Select * from emp where ename like 'Y%' and ename like '%f';

1st Nov 2021

create table cust_info_airtel (cid number(7),cname varchar2(20));

insert into cust_info_airtel values(101,'Yusuf');

insert into cust_info_airtel values(102,'Abhi');

insert into cust_info_airtel values('','Anita');

select * from cust_info_airtel

SQL Constraints-- applying some rules while data insertion by user.

Primary Key---- it does not accept duplicate and null values in resp column.

each record will be uniquely identified.

Any table has only one primary key constraint.

accept unique and not null values.

combination of unique and not null constraints.(Unique+Not null)

create table customer_info1(cid number(7) primary key,cname varchar2(20),cmob varchar2(14),cbill number(5), ccity varchar2(20));

select * from customer_info1

insert into customer_info1 values(101,'Amit',98787887,800,'Pune');

insert into customer_info1 values(102,'Amit',98787887,800,'Pune');

insert into customer_info1 values(101,'Sachin',98797887,900,'Mum');----Unique constraint violated

insert into customer_info1 values(103,'Sachin',98787887,800,'Pune');

insert into customer_info1 (cname,cmob,cbill,ccity) values('Raj',77876777,1000,'Pune');--cannot insert NULL

describe customer_info1

2. Unique---It does not accept duplicate value but accepts null values.

Unique constraints can be applied more than 1 times in a table.

It will accepts any no of null values.

create table customer_info2(cid number(7),cname varchar2(20),cmob varchar2(14) unique,cbill number(5), ccity varchar2(20));

select * from customer_info2

insert into customer_info2 values(101,'Amit',9878788790,800,'Pune');

insert into customer_info2 values(102,'Amit',988887887,800,'Pune');

insert into customer_info2 values(103,'Priya',9878788790,1000,'Delhi');

insert into customer_info2 (cid,cname,cbill,ccity) values(103,'Abhi',900,'Pune');

insert into customer_info2 (cid,cname,cbill,ccity) values(104,'abhi',800,'Pune');

insert into customer_info2 (cid,cname,cbill,ccity) values(106,'abhi',800,'Pune');

select * from customer_info2;

DESCRIBE customer_info2;

null != null--- Oracle------It accepts any no null values for Unique constraint

null=null-----Sql server---It accepts only one null value for Unique constraint

3. Not null-- It does not accept nulls value but accept duplicates.

It can be applied on more than 1 column on any table.

create table customer_info3 (cid number(7),cname varchar2(20) not null,cmob varchar2(14),cbill number(5), ccity varchar2(20));

select * from customer_info3;

describe customer_info3

insert into customer_info3 values(101,'Amit',98787887,800,'Pune');

insert into customer_info3 values(101,'Priya',98787887,1000,'Delhi');

insert into customer_info3 (cid,cmob,cbill,ccity) values(103,9876765,800,'Pune');

insert into customer_info3 (cid,cbill,ccity) values(104,800,'Pune');

insert into customer_info3 values(101,'Amit',98787887,800,'Pune');

insert into customer_info11182 (cid,cname,cbill,ccity) values(105,'abhi',800,'Pune');

Assignment

create table customer_info4 (cid number(7) primary key,cname varchar2(20) ,cmob varchar2(14) unique not null,cbill number(5), ccity varchar2(20));

DESCRIBE customer_info4;

03-11-2021

4. Check--- It validates the given condtition before data insertion by user. It accepts duplicate and null values until if condition is satisfied.

It can be applied on more than 1 column on any table.

create table customer_info5 (cid number(7),cname varchar2(20) ,cmob varchar2(14),cbill number(5) check (cbill > 500), ccity varchar2(20));

insert into customer_info5 values(101,'Amit',98787887,501,'Pune');

insert into customer_info5 values(101,'Amit',98787887,1000,'Pune');

insert into customer_info5 values(101,'Amit',98787887,501,'Pune');

insert into customer_info5 values(103,'riya',88787887,100,'Delhi');

insert into customer_info5 (cid,cbill,ccity) values(103,499,'Pune');

insert into customer_info5 (cid,cbill,ccity) values(103,500,'Pune');

insert into customer_info5 (cid,cname,ccity) values(104,'abhi','Pune');

insert into customer_info5 (cid,cname) values(105,'abhi');

select * from customer_info5;

5. Default ----- It applies default value to assigned column.

create table customer_info6 (cid number(7),cname varchar2(20) ,cmob varchar2(14),cbill number(5), ccity varchar2(20) default 'Unspecified');

insert into customer_info6 values (102,'Akshay',98787887,501,'');

insert into customer_info6 values(101,'Priya',98787887,1000,'Delhi');

insert into customer_info6 (cid,cmob,cname,cbill) values(103,99876769,'Yusuf',700);

insert into customer_info6(cid,cname) values(109,'abhi');

insert into customer_info6 values(106,'Pooja',98787887,501,'');

select * from customer_info6

8th Aug 2021

All Constarint Testing----

create table customer_info7 (cid number(7) primary key ,cname varchar2(20) not null ,cmob varchar2(14) unique,

cbill number(5) check (cbill>500), ccity varchar2(20) default 'Unspecified');

insert into customer_info7 values(101,'Amit',98787887,501,'Pune');

insert into customer_info7 values(102,'Priya',98787807,510,'Delhi');

insert into customer_info7 values(107,'Akash',98789887,590,'Pune');

insert into customer_info7 values(107,'Akshay',986898987,590,'Pune');----PK error-duplicate

insert into customer_info7 values('','Akshay',986898987,590,'Pune');----PK error---null

insert into customer_info7 (cid,ccity,cname) values(108,'Pune','');---not null

insert into customer_info7 values(109,'Priyanka',98789887,590,'Pune');---Unique

insert into customer_info7 (cmob,cname,cbill) values('','Yusuf',900);---PK

insert into customer_info11189(cid,cname) values(171,'abhijit')

insert into customer_info7 values(1117,'Yusuf',989899887,890,'');

insert into customer_info7 (cid,cmob,cname,cbill) values(104,'','Yusuf',900);---default

select * from customer_info8;

insert into customer_info166 values(111,'Rahul',888888,666,'Pune');

create table customer_info8(cid number(7),cname varchar2(20) check (cname='Yusuf') ,cmob varchar2(14) unique not null ,

cbill number(5) check (cbill>900) unique,ccity varchar2(20) default 'Unknown');

insert into customer_info8 values(101,'Yusuf',98787887,1000,'Pune');

insert into customer_info8 values(102,'Yusuf',989865433,910,'Delhi');

insert into customer_info8 values(103,'Yusuf',98789897887,910,'Delhi');

7th Nov 2021

Composite key---- A primary key which is applied on more than one column is known as Composite key.

create table customer_info9 (cid number(7),cname varchar2(20),cmob varchar2(14),corder varchar2(20),cbill number(5),

ccity varchar2(20),primary key(cid,corder,cbill));

101 PD 500

101 Mob 5000

101 Mob 15000

102 PD 500

101 Mob 5000

insert into customer_info9 values(101,'Amit',9878789,'PD',500,'Pune');

insert into customer_info9 values(101,'Amit',9878789,'Mob',5000,'Pune');

insert into customer_info9 values(101,'Amit',9878789,'Mob',15000,'Pune');

insert into customer_info9 values(102,'Amit',9878789,'PD',500,'Pune');

insert into customer_info9 values(101,'Amit',9878789,'Mob',5000,'Pune');---Unique Const viaolated

insert into customer_info9 values(102,'Amit',9878789,'',500,'Pune');---can not insert Null value

insert into customer_info9 values(107,'Amit',9878789,'PD',500,'Pune');

select * from customer_info9;

-----SQL Functions-----

1.Aggregate Functions

2.Character Functions

3.Date Functions

4.Conversion Function

1. Aggregate Function---

Q- Do u know aggregate functions?

max,min,avg,sum,count

select * from emp

select min(esal) from emp

select max(esal) from emp

select avg(esal)from emp

select sum(esal)from emp

Select max(ename) from emp

Select min(ename) from emp

A a

Z z

A Z

a z

ascending ---A Z a z

descending--z a Z A

u

s

A

Y

p

select * from emp

select count(eid) from emp

select count(eadd) from emp

select count(emob) from emp

select count(*) from emp

----It will display count of total no of table records/rows

Seperate Concept

Distinct Keywords --- How to display unique records from perticular column?

It will display unique records from perticular column.

Its not a aggregate func.

select * from emp

select eadd from emp

select distinct(eadd) from emp

select edept from emp;

select distinct(edept) from emp;

How to dispay count of unique records?

select count(distinct(edept)) from emp;

8th Nov 2021

2. Character Function

Case Manipulation	Character Manipulation
lower	length
upper	substr
initcap	instr

Q. Do you know scalar functions? ---CG

Me--- Amit, I havent heard abt this terminology. Please little bit eaborate on this so i can recall if i have worked on this or not.

Amit- Yes Yusuf. these are the case related functions.

Me- okay got it. In our organization we call them as Case Manipulation functions. And lower upper

and initcap these r the functions comes under case Manipulation.

select * from emp

select lower(ename) from emp;

select ename,lower(ename) as Lower_Case_Ename from emp

select emp.*,lower(ename) as Lower_Case_Ename from emp

select upper(ename) from emp

select ename,upper(ename) from emp

select emp.*,upper(ename) as upper_Case_Ename from emp

select initcap(ename) from emp

select ename,initcap(ename) from emp

select * from emp

sangharsh

select upper('sangharsh') from dual

select lower('SANGHARSH') from dual

select upper('Vrushali'),lower('Sonam') from dual;

select * from dual;

Length---

select * from employee11

select length (ename) from employee11

select ename, length (ename) from employee11

select length ('Vrushali') from dual;

select length ('Sangharsh') from dual;

Dual-- It is pseudo table/virtual table/system generated table.

10th Aug 2021

Substr----Substring

It displays the specific characters from string.

substr(columnname,x,y) substr(ename,1,2)

substr(stringname,x,y)

select substr('Sangharsh',7,4) from dual

select substr('Sangharsh',2,5) from dual

Dual- It is Pseudo table/Virtual table

x-- starting position of char where substring starts.

y---length of substtring from that starting char(x)

1 2 3 4 5 6 7 8 9

S a n g h a r s h

1 2 3 4 5

S a n g h a r s h

1 2 3 4 5 6 7 8

```
select substr('Sangharsh',7,4) from dual
select substr('Sangharsh',2,5) from dual
select substr('Sangharsh',-7,4) from dual
select substr('Sangharsh',-2,5) from dual
select substr('Abhijit',5,3) from dual
```

A b h i j i t

V r u s h a l i

-8 -7 -6 -5 -4 -3 -2 -1

c1c2c3c4c5

```
select substr('Vrushali',4,5) from dual;
select substr('Vrushali',-4,3) from dual;
select substr('Vrushali',4,3),substr('Vrushali',-4,3) from dual;
select substr('Vrushali',-1,-2) from dual;
```

-8 -7 -6 -5 -4 -3 -2 -1

V r u s h a l i

```
select substr('Sangharsh',4,4) from dual;
select substr('Sangharsh',2,4) from dual;
select substr('Sangharsh',1,3) from dual;
select * from employee11
select ename,substr(ename,1,3) from employee11;
select ecity,substr(ecity,1,3) from employee11;
select ename,substr(ename,3,2),upper(ename) from employee11;
select ename,substr(ename,5,3) from employee11;
select ename,substr(ename,-5,3) from employee11;
select ename,substr(ename,3) from employee11;
select ename,substr(ename,-3) from employee11;
select substr('Vrushali',-3) from dual;
select cname,substr(cname,-5,5) from customer_info1777;
select cname,substr(cname,5,1) from customer_info1777;
```

select substr(ename,-4,-3) from employee11;---will this work or not? Explain why--- No. Length sould not be the negative value.

Interview Question-

Table name- Product_info---pid pname pamount add

pname

TV123456789LG101

TV198765435Samsung199

TV198765435Samsung201

O/p

Productno_Modelno

123456789_101

198765435_199

select substr (pname,3,9) || '_'|| substr(pname,-3,3) as Productno_Modelno from prodinfo;

10th Nov

Instr----returns the location of substring from string.

select instr('Sangsharsh','h') from dual;

select instr('Sangharsha','harsh') from dual;

select instr('Sangharsha','g') from dual;

select instr('Sangsharsh','h',1,1) from dual

select instr('Sangsharsh','h',1,2) from dual;

select instr('Sangsharsh','a',1,1) from dual

select instr('Sangsharsh','a',1,2) from dual

select instr('Sangharsha','a',1,3) from dual;---10

select instr('Sangharshghargharghar','ghar',1,1) from dual;---4

select instr('Sangharshghargharghar','ghar',1,2) from dual;---10

select instr('Sangharshghargharghar','ghar',1,3) from dual;---14

select instr('Sangharshghargharghar','ghar',1,4) from dual;---18

select instr('Sangsharsh','h',2,1) from dual

select instr('Sangsharsh','h',3,1) from dual Abhi jitit select instr('Abhijitit','i',5,2) from dual

select instr('Sangsharsh','h',4,1) from dual x- its a starting position to find the location of substring

select instr('Sangsharsh','h',5,1) from dual y- nth occurance of substring

select instr('Sangsharsh','h',6,1) from dual

select instr('Sangsharshabcdh','h',7,1) from dual---10

select instr('Sangsharshabcdh','h',7,2) from dual---15

select instr('Sangsharsha','a',8,1) from dual---11 Sangsharsha

select instr('Sangsharsha','a',6,1) from dual---7

select instr('Sangsharsha','a',6,2) from dual---11

s a n g harsh a

1 2 3 4 5 6

+S a n g h a r s h g h a r g h a r ghar

email

yusuftamboli@gmail.com

amitpatil@gmail.com

poojachavan@outlook.com

Output 1

yusuftamboli

amitpatil

poojachavan

Output 2

gmail.com

gmail.com

outlook.com

substr instr

substr ke andar instr use krna hoga

select * from employee12

```
select email,instr(email,'@',1,1) from employee12

select substr (email, 1, instr(email,'@',1,1 )-1) from employee12

select substr (email, instr(email,'@',1,1 )+1) from employee12


select employee12.*, substr (email, 1, instr(email,'@',1,1 )-1) as Username, substr (email,
instr(email,'@',1,1 )+1) as DomainName from employee12
```

Date Functions-----

add_months

months_between

next_day

last_day

sysdate

systimestamp

to_date

```
select * from employee12

create table cred8datedemo (eid number (6),dob date);

desc cred8datedemo

insert into cred8datedemo values (105,'20-dec-2001')

insert into cred8datedemo values (105,'20-12-2003')

select * from cred8datedemo

select * from employee12


select add_months('05-jan-2020',3) from dual

select add_months(edoj,3) from employee12

select add_months(edoj,3) from employee12

select employee12.*,add_months(edoj,3) from employee12



select months_between('05-jan-2020','05-jan-2018') from dual--- 24

select months_between('05-jan-2018','05-jan-2020') from dual-- -24
```

```
select months_between(edoj,edor) from employee12

select months_between(edor,edoj) from employee12

select employee12.*,months_between(edor,edoj) as Exp_in_Months from employee12

select employee12.*,months_between(edor,edoj) from employee12 where eid=101
```

11th Nov 2021

```
select employee12.*,next_day(edoj,'Mon') from employee12

select next_day('11-Nov-2021','fri') from dual

select next_day('10-nov-2021','mon') from dual

select last_day(edoj) from employee12

select last_day('08-mar-2021') from dual

select sysdate from dual;

select systimestamp from dual;

select * from cred8datedemo

select eid, months_between(sysdate,dob) from cred8datedemo   11-11-2021  11-11-2001

select eid, months_between(sysdate,dob)/12 as Emp_Age from cred8datedemo

select eid, months_between(systimestamp,dob) from cred8datedemo

describe employee12;


create table datedemo80(eid number (7),ename varchar2(20),DOB varchar2(30));

create table datedemo81 (eid number (7),ename varchar2(20),DOB date);

insert into datedemo80 values(101,'Suraj','17-jan-2000');----dob is string

insert into datedemo81 values(101,'Suraj','17-jan-2000');

insert into datedemo71 values(102,'Amit','22-08-2001');

select * from datedemo81

insert into datedemo81 values(103,'Priya','07-22-2001');----It wil not run as date format is incorrect.
becz oracle accepts dd mm yy format. its by default format for oracle.

insert into datedemo81 values(103,'Priya',to_date('07-22-2001','mm-dd-yyyy'))

insert into datedemo81 values(104,'Riya',to_date('07-22-03','mm-dd-yy'))

insert into datedemo81 values(105,'Santosh',to_date('22-08-2001','dd-mm-yyyy'))
```

insert into datedemo81 values(103,'Riya',to_date('2007-22-03','yyyy-dd-mm'))

insert into datedemo81 values(102,'Stacey',to_date('22-2002-oct','dd-yyyy-mm'));

select * from datedemo81 where dob= to_date('01-01-01','mm-dd-yy')

select * from datedemo15

to_date in date function

select * from employee12

insert into employee12 values(107,'Suraj','17-jan-2018','30-oct-2020',80000);

insert into employee12 values(108,'Tom',to_date('05-25-2017','mm-dd-yyyy'),to_date('12-30-2019','mm-dd-yyyy'),80000);

insert into employee12 values(110,'stacey',to_date('2016-10-11','year-mm-dd'),to_date('12-2019-09','dd-yyyy-mm'),90000);

insert into demodate values (103,to_date('12-23-2019','mm-dd-yyyy'))

insert into demodate values (103,to_date('dec-23-2019','mon-dd-yyyy'))

insert into demodate values (105,to_date('23-12-2020','dd-mm-yyyy'))

*** Conversion Functions--

to_date in conversion func--- it will convert character/string value to date value.

'2020-25-11'----- yyyy-dd-mm--------string

select '2020-25-11' from dual

select to_date('2021-11-11','yyyy-dd-mm') from dual;

select to_date('12-30-2020','mm-dd-yyyy') from dual;

Q. Display employee info who joined on perticular date using to_date function.----mar-25-2017

select * from EMPLOYEE12 WHERE EDOJ = 'mar-25-2017'---will not run

Ans-----

select * from EMPLOYEE12 WHERE EDOJ = to_date('mar-25-2017','mm-dd-yyyy');

Q. Display employee info who joined on perticular date -- '25-mar-2017'

Ans-

select * from EMPLOYEE12 WHERE EDOJ ='25-mar-2017'

Q. Display employee info who joined on between given dates using to_date function.

select * from EMPLOYEE12 WHERE EDOJ between to_date('05-25-17','mm-dd-yy') and to_date('jan-01-20','mm-dd-yy')

select * from EMPLOYEE12 WHERE EDOJ between to_date('2017-25-05','yyyy-dd-mm') and to_date('jan-01-2020','mm-dd-yyyy')

Q. Display employee info who joined on perticular given dates using to_date function.

select * from EMPLOYEE12 WHERE EDOJ in(to_date('05-18-2020','mm-dd-yyyy') ,to_date('04-10-2015','mm-dd-yyyy'))

12th Nov 2021

to_char---- it will convert date/numeric value to character/string value

to_char(date/datecolumn,'formatmdel')

Abbrevations----

mm-02

mon-feb

month- february

yy-21

yyyy-2021

year- twenty twenty

dd-09

day- Friday

Q. Can u display emplyees joining year along with empname.

select * from datedemo81

select to_char(dob,'mm-yyyy-dd') from datedemo81

select * from employee12;

select ename,to_char(edoj,'yyyy') as joining_year from employee12------interview quest

select employee12.*,to_char(edoj,'yyyy') as joining_year,to_char(edor,'yyyy') as Resign_year,months_between(edor,edoj)/12 as experience from employee12

select ename,to_char(edoj,'mm-dd')from employee12

select ename,to_char(edoj,'mm-yyyy')from employee12

select ename,to_char(edoj,'year')from employee12

select to_char(sysdate,'yyyy') as joining_year from dual

Q. Can u display employees data who joined in perticular month/year? '2020'

select * from employee12 where to_char(edoj,'yyyy')='2020'

select * from employee12 where to_char(edoj,'mm-yyyy')='10-2018'

select * from employee12 where edoj between '01-jan-2020' and '31-dec-2020';

select * from EMPLOYEE12 WHERE EDOJ between to_date('01-01-2020','mm-dd-yyyy') and to_date('12-31-2020','mm-dd-yyyy')

Q. Can u display employees data who joined in perticular quarter? '4'

select * from employee12 where to_char(edoj,'q')=1

select * from employee12 where to_char(edoj,'q')=2

select * from employee12 where to_char(edoj,'q')=3

select * from employee12 where to_char(edoj,'q')=4

Q. Can u display employees data who joined in perticular quarter for year 2018?

select * from employee12 where to_char(edoj,'q')=4 and to_char(edoj,'yyyy')='2018'

*** nvl---converts null value to actual value in select statement

select * from employee12

select employee12.*, nvl(ename,'abc') as NVLCovertedValue from employee12

select employee12.*, nvl(ename,'Unknown') as output1 ,nvl(eid,101) as output2 from employee12

select * from table13

*** Decode---convert any small abbreviation into full name.

SELECT * FROM EMP10

create table emp10 (eid number(5),ecity varchar2(20));

insert into emp10 values(107,'Mum');

insert into emp10 values(108,'Del');

insert into emp10 values(103,'Kol');

insert into emp10 values(104,'Hyd');

insert into emp10 values(105,'New');

insert into emp10 values(106,'PN');

select emp10.*,decode
(ecity,'Mum','Mumbai','Del','Delhi','Kol','Kolkata','Hyd','Hyderabad','New','Newyork','Unknown') as decoded_City from emp10

select emp10.*,decode
(ecity,'Mum','Mumbai','Del','Delhi','Kol','Kolkata','Hyd','Hyderabad','New','Newyork','Chenn','Chennai','411009','Pune')

as decoded_City from emp10

select emp10.*,decode
(ecity,'Mum','Mumbai','Del','Delhi','Kol','Kolkata','Hyd','Hyderabad','New','Newyork','Chenn','Chennai','411009','Pune','Unknown')

as decoded_City from emp10

select ename, decode(ename,'Yusuf','Yusuf Tamboli','Priya','Priya Patil','Unknown') as full_name from emp10

SQL Clauses---

Where

group by

having

order by

Where---- It filters the rows from table based on specific condtions and display/delete/update the records.

select * from emp where edept='hr';

select ename,esal from emp where edept='hr';

16th Nov 2021

Group by---It divides the multilpe rows into identical groups.

We can use only group by column or aggregate fun column(with any column from table) in select statement.

Or both group by column and aggregate fun column(with any column from table).

select edept from emp group by edept

select count(edept) from emp group by edept

select count(eadd) from emp group by edept

select edept, count(edept) from emp group by edept

select edept, count(eadd) from emp group by edept

select count(*) from emp group by edept

select edept, count(*) from emp group by edept

select edept,count(eid) from emp group by edept

select edept,count(emob) from emp group by edept

select edept,count(ename) from emp group by edept

select edept,count(*) from emp group by edept

select ename from emp group by edept;---- It will not run the query

select edept,eid from emp group by edept---It will not run the query

select ename,edept from emp group by edept-----It will not run the query

Gropus

1.cse

101	Yusuf	9766725456	80000	Pune	cse
109	Nikhil	7788789845	100000	Pune	cse
111	Sagar	7388789845	55000	Newyork	cse
114	Swarup	6888789845	780000	Pune	cse
101	Yusuf	9766725456	90000	Pune	cse
121	Rajesh	9007899845	190000	Newyork	cse
101	Rajesh	6754545667	80000	Delhi	cse
125	Rajesh	878989899	170000	mum	cse
126	Pratiskhsa	9090909090	185000		cse

2.mech---

102	Supriya	8766725456	70000	Pune	mech
104	priya	8969925456	87000	Newyork	mech
104	priya	8969925456	87000	Newyork	mech
108	Akash123	7768729845	125000	Newyork	mech
110	Akash	8688789845	150000	Pune	mech
112	Yusuf	8388789845	120000	Delhi	mech
124	Amruta	898789877	90000	Newyork	mech

127	Nik	787000000	35000		mech
128	Pooja	80898989	780000	Newyork	mech

3.it-------

103	Amit	8966725456	99000	Newyork	it
106	Abhi	9969929845	97000	Delhi	it

4..entc---

105	Raj	89699298456	67000	Pune	entc

5.hr-------

113	Shivani	6388789845	170000	Satara	hr
115	Abhijit	6888789845	35000	Newyork	hr
117	Amey	7876789845	185000	delhi	hr
119	Alkesh	907989845	80000	Newyork	hr

6.civil-

116	Yusuf	7888789845	50000	Newyork	civil

7. null---

120	Ramesh	9007999845	90000	Newyork	null
121	Kunal	9007899845	60000	Newyork	null
139			35000		null

How to apply group by clause on 2 columns

select * from emp

select ename,edept,count(*) from emp group by edept,ename

(cse Yusuf)-----

101 Yusuf 9766725456 80000 Pune cse

101 Yusuf 9766725456 90000 Pune cse

(mech,Supriya)----

102 Supriya 8766725456 70000 Pune mech

104 Supriya 8969925456 87000 Newyork mech

it, Amit-

103 Amit 8966725456 99000 Newyork it

hr,Rishikesh--117 Rhi

cse,yusuf----108 yusuf ,111 yusuf 9809898 30000 Pune 1000 cse

hr abhi--176 Abhi 80000 2000 hr

hr priya-167 Priya 40000 2000 hr

entc zaheer---103

mech Pooja---177 Pooja 95000 2000 mech, Pooja mech

hr null- hr

it whivhani---104

cse SaCHIn--106

****

Distinct keyword-- it identifies unique records from table.

select distinct (edept) from emp

select count(edept) from emp

select * from employee11

select distinct (edept),count(edept) from emp----not possible to dislpay deptwise count.

****

17th Nov 2021

Interview Questions on Group by Clause---

----Display deptwise Count of employee---

select * from emp

select edept,count(*) from emp group by edept

----Display deptwise highest salary---vvvvvvimp

select edept,max(esal) from emp group by edept

select max (esal) from employee11 group by edept

----Display deptwise total salary---

select edept,sum(esal) from emp group by edept

----Display deptwise avg salary---

select edept,avg(esal) from emp group by edept

----Display deptwise min salary---

select edept,min(esal) from emp group by edept

-----Display avg sal and sum of sal

select edept,count(*),sum(esal) ,avg(esal),max (esal),min(esal) from emp group by edept

Q--- How to display productwise highest sales----- ZS Associate

Product

pid pname sales_amt

101 Lap 80000

102 Mob 60000

103 Lap 50000

104 Mob 40000

105 PD 8000

106 Mob 125000

107 PD 6000

select pname,max(Sales_amount) from product group by pname; -----Right ans

select pname,max(pname) from product group by sales_amount; -------- wrong ans given by ex-candidates

having Clause------It applies filter on results which are generated by group by clause using specific aggregate functions.

select * from emp

select edept, count(edept) from emp

group by edept

having count (edept) > 1

select edept,count(*) from emp

group by edept

having count(*) > 1

select edept,count(*) from emp

group by edept

having count(edept) < 1

cse-----101 AMIT,108 AMIT,108 yusuf,108 AMIT,106 SaCHIn

mech---109 AMit,111 yusuf

hr-------117 Rhishikesh

entc----103 Zaheer

it-------104 whivani

------how to display duplicate records-------vvvvimp----Asked in 95% interviews

Ans1

select edept,count(*) from emp

group by edept

having count(*) > 1

Display Unique Records

select edept,count(*) from emp

group by edept

having count(*) = 1

Different Scenarios for having clause---

select edept,max(esal) from emp group by edept having max(esal)>60000;

select edept,count(edept) from emp group by edept having max(esal)>60000;

select edept, avg(esal) from emp group by edept having avg(esal)>100000

select edept,max(esal) from emp group by edept having sum(esal)>=161000

select edept,min(esal) from emp group by edept having min(esal)>90000

select edept,max(esal) from employee11 group by edept having avg(esal)>60000

80000>72000

19th Nov 2021

Order by--- Sorting the records in asc or desc order.

asc---0 to 9,A to Z,a to z

number---capital letter---small letters

desc---9 to 0, z to a, Z to A

Reverse of the asc order

select * from employee11 order by esal desc;

select * from employee11 order by esal asc;

select * from employee11 order by ename desc;

select * from employee11 order by ename;

select * from emp order by ename ;

select * from emp order by eadd desc;

select * from emp order by ename desc nulls last;

select * from emp order by ename asc nulls first;

By defaut squence of order by clause is ASCENDING.

select edept,count(*) from emp

where eid >104

group by edept

having count (*) > 1

order by edept desc nulls last

select * from employee11

Difference between where and having clause

where	having
It applies filters on table rows based on specified condtion	It applies filter on results which are generated by group by clause using specific aggregate functions.
We can use where clause with or without group by.	We can not use having clause without group by.
We use where clause before group by	We use having clause after group by
We can not use aggregate function in where clause.	We have to use aggregate fuctions in having clause to apply filters on group by results.

Internal Execution Order of any query by Database Engine

from

Where

group by

having

select

order by

2oth Nov 2021

***** Drop Truncate Alter Rename *******

Drop--- Drop is DDL statement command.

It will delete table strucure and table data.

(After Select Statement)-- User will not find perticular table when he apply drop commad on that table.i.e Rollback is not possible.

We cant apply where clause with drop command.

select * from customer_info1001

drop table customer_info1001

Truncate-- It DDL statement command.

It will delete only table data and keep table structure as it is.

(After Select Statement)-- User will find perticular table with its strucure but it will not dispaly table data.i.e Rollback is not possible

We cant apply where clause with drop command.

select * from customer_info1002

truncate table customer_info1002

Rename---

It is ddl command.

We can change table or column name using this command.

Rollback is not possible

select * from customer_regi_info

rename customer_regi to customer_regi_info

Alter--It DDL statement command.

It deals with table structure.

Rollback is not possible.

1. How to add 1 new column to existing table.

desc cust_info_airtel

select * from cust_info_airtel

alter table cust_info_airtel add (ecity varchar2(14));

2. How to add multile columns to existing table.

desc cust_info_airtel

alter table cust_info_airtel add (emob varchar2(20),esal number(7));

3. How to drop 1 column from existing table.

desc cust_info_airtel

alter table cust_info_airtel drop (ecity);

5. How to drop multile columns from existing table.

desc cust_info_airtel

alter table cust_info_airtel drop (emob,esal);

6. How to rename a column?

desc cust_info_airtel

alter table cust_info_airtel rename column cname to custname;

7. How to modify datatype/size of coulmn?

desc cust_info_airtel

alter table cust_info_airtel modify (emob number(30));

desc testing

------Subquery-------Query within query.----

There are 2 parts in subquery.

1. Inner Query 2. Outer Query

Execution Process-- First it will execute inner query and then will execute outer query.

And while executing outer query, output of inner query will be used as input for outer query.

1. Find out all employee details with its highest salary.

select * from emp

select max (esal) from emp;

select emp.*,max (esal) from emp;---not possible

select * from emp where esal = (select max(esal) from emp)

select * from emp where esal in (select max(esal) from emp)

select * from emp where esal= 780000

select * from employee11 where esal = (select max(esal) from employee11)

2. Find out all employee details with its lowest salary.

select * from emp where esal = (select min(esal) from emp)

select * from emp where esal in (select min(esal) from emp)

35000

3. How to display Second max salary -------VVIMP with resp to inetrview----asked in almost all organisation

select max(esal) from emp where esal < (select max (esal) from emp);

960000 1080000

***Secoond way to find 2nd max sal

select * from employee11 where esal not in (170000)

select max(esal) from emp where esal not in (select max(esal) from emp)

960000 1080000

21st Nov 2021

4. How to display Second min salary -------VVIMP with resp to inetrview----asked in almost all organisation

select min(esal) from emp where esal > (select min(esal) from emp)

30000 25000

***Secoond way to find 2nd min sal

select min(esal) from emp where esal not in (select min(esal) from emp)

30000 25000

5. Second max salary with all details

select * from emp where esal = (select max(esal) from emp where esal < (select max (esal) from emp));

select * from emp where esal in (select max(esal) from emp where esal < (select max (esal) from emp));

960000 1080000

6. Second min salary with all details

select * from emp where esal = (select min(esal) from emp where esal > (select min(esal) from emp))

select * from emp where esal in (select min(esal) from emp where esal > (select min(esal) from emp))

30000 52800

7. Third max salary

```
select max (esal) from emp where esal < (select max(esal) from emp where esal < (select max (esal) from emp));
```

8. Third max salary with all details

```
select * from emp where esal = (select max (esal) from emp where esal <
(select max(esal) from emp where esal < (select max (esal) from emp)));
```

9.Fourth max salary

```
 select max(esal) from emp where esal <
 (select max(esal) from emp where esal <
 (select max(esal) from emp where esal <
 (select max(esal) from emp)))
```

10. 9.Fourth max salary with details

```
select * from emp where esal in
(select max(esal) from emp where esal <
 (select max(esal) from emp where esal <
 (select max(esal) from emp where esal <
 (select max(esal) from emp))))
```

```
select * from emp14
select * from emp25
```

```
select * from emp14 where eid not in ( select eid from emp25)
```

101 102 103 108 105 110 113

```
select * from emp25 where fname in (select ename from emp14)
select * from emp14 where ename in (select fname from emp25)
```

101,102,103,104

```
select * from emp25 where eid not in (select eid from emp14)
select eid from emp14 where eid in (select eid from emp25)
select * from emp14 where eid not in (select eid from emp25)
```

select eid,esal from emp14 where eid in (select eid from emp25)

Pseudo Columns

Rank()

Dense_rank()

Rownum

Rowid

Q. Difference between Rank and Dense_Rank

Rank()------

select * from emp order by esal asc

select rank() over (order by esal desc) from emp

select esal, rank() over (order by esal desc) from emp

select emp.*, rank() over (order by esal desc) as Ranking from emp

(select emp.*,rank() over (order by esal asc) as Ranking from emp)

Dense_Rank()-----

select emp.*, dense_rank() over (order by esal desc) as Ranking from emp

select emp.*, dense_rank() over (order by esal desc nulls last) as Ranking from emp

select emp.*, dense_rank() over (order by esal asc) as Ranking from emp

select * from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =2

select * from (select emp.*, dense_rank() over (order by esal asc) as ranking from emp) where ranking =2

select esal,ranking from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =2

Interviwe Qustions on Highest and Lowest Salaries

1.Highest Salary with emp details

select * from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =1

2.2nd max sal whit emp details

select * from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =2

3.3rd max sal

select * from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =3

4.64 th max sal

select * from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =64

5.1000th max sal

select * from (select emp.*, dense_rank() over (order by esal desc) as ranking from emp) where ranking =1000

22nd Nov 2021

6.Top 5 highest sal

select * from (select employee11.*,dense_rank() over (order by esal desc) as ranking from employee11) where ranking<=5

select * from (select employee11.*,dense_rank() over (order by esal desc) as ranking from employee11) where ranking between 1 and 5

7.salaries between 3rd max to 6th max

select * from (select employee11.*,dense_rank() over (order by esal desc) as ranking from employee11) where ranking between 3 and 6

8.salaries not between 3rd max to 6th max

select * from (select employee11.*,dense_rank() over (order by esal desc) as ranking from employee11) where ranking not between 3 and 6

9.perticular salaries 3rd max,6th max,8th max

select * from (select employee11.*,dense_rank() over (order by esal desc) as ranking from employee11) where ranking in(3,6,8)

10.perticular salaries which are not 3rd max,6th max,8th max

select * from (select employee11.*,dense_rank() over (order by esal desc) as ranking from employee11) where ranking not in(3,6,8)

1.Lowest Salary

select * from (select employee11.*,dense_rank() over (order by esal asc) as ranking from employee11) where ranking=1

2.2nd lowest sal

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking=2

3.3rd Lowest sal

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking=3

4.64 th Lowest sal

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking=64

5.1000th Lowest sal

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking=1000

6.Top 5 Lowest sal

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking<=5

7.salaries between 3rd Lowest to 6th Lowest

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking between 3 and 6

8.salaries not between 3rd Lowst to 6th lowest

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking not between 3 and 6

9.perticular salaries 3rd Low,6th Low,8th Low

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking in(3,6,8)

10.perticular salaries which are not 3rd Low,6th Low,8th Low

select * from (select employee11.*,dense_rank() over (order by esal) as ranking from employee11) where ranking not in(3,6,8)

23rd Nov 2021

Rownum---- It will generate temporary sequnce number.

select * from emp

select rownum from emp

select emp.*,rownum from emp

select emp.*,rownum from emp order by rownum desc

select emp.*,rownum from emp order by rownum asc

Q. Want to display first 5 records from table.

select * from emp

select emp.*, rownum from emp where rownum <=5;

Q. Want to display Last 5 records from table. (Practice)

Rowid--- It is a Unique id for each row from table and it is permanent.

select rowid from emp

select emp.*,rowid from emp

select emp.*,rownum,rowid from emp

select employee12.*,rownum,rowid from employee12

create table demo55 (eid number, ename varchar2(20));

select demo55.*,rownum,rowid from demo55

insert into demo55 values(105,'Abhi');

delete from demo55 where eid=104

Display last inserted row from table---Interview Question

select max(rowid) from emp

select emp.* ,rowid from emp where rowid in (select max(rowid) from emp)

AAADV2AABAAAKYyAAd

Deptwise latest row

Ans- select edept,max(rowid) from employee11 group by edept

Display last inserted row details with respect to each department from table/ deptwise latest row with all details---never asked in any interview

select emp.* ,rowid from emp where rowid in (select max(rowid) from emp group by edept)

cse- AAADV2AABAAAKYyAAZ

mech- AAADV2AABAAAKYyAAb

hr- AAADV2AABAAAKYyAAS

null- AAADV2AABAAAKYyAAd

entc-- AAADV2AABAAAKYyAAE

civil-- AAADV2AABAAAKYyAAP

it -- AAADV2AABAAAKYyAAF

Q. Display latest row of 'cse' dept?

select * from emp where rowid in (select max(rowid) from emp where edept='cse')

Q. How to display duplicate records?

Ans 1---

```
select edept,count(*) from emp
group by edept
having count(*) > 1
```

Ans 2---

```
select emp.*,rowid from emp where rowid not in (select max(rowid) from emp group by edept)
```

AAADVFAABAAAIFSAAS

AAADVFAABAAAIFSAAd

AAADVFAABAAAIFSAAZ

AAADVFAABAAAIFSAAF

AAADVFAABAAAIFSAAP

AAADVFAABAAAIFSAAE

AAADVFAABAAAIFSAAb

```
select emp.*,rowid from emp where rowid not in (select min(rowid) from emp group by edept)
```

AAADVFAABAAAIFSAAM

AAADVFAABAAAIFSAAT

AAADVFAABAAAIFSAAA

AAADVFAABAAAIFSAAC

AAADVFAABAAAIFSAAP

AAADVFAABAAAIFSAAE

AAADVFAABAAAIFSAAB

Q. How to delete duplicate records?

```
delete  from emp where rowid not in (select max(rowid) from emp group by edept)
delete from emp where rowid not in (select min(rowid) from emp group by edept)
select emp.*,rowid from emp
```

Q. How to display Unique records?

Ans 1--

select distinct(edept) from employee11;

Ans 2--

select emp.*,rowid from emp where rowid in (select max(rowid) from emp group by edept)

select emp.*,rowid from emp where rowid in (select min(rowid) from emp group by edept)

24th Nov 2021

-----Foreign Key/Referential constraint-----Mapping/maintain the relation between 2 tables

Pk of one/Parent table is fk of another/child table.

Parent Table(Primary key) and Child Table(Foreign key).

create table cust_orders(cid number(6) primary key,cname varchar2(15),ccity varchar2(20));

select * from cust_orders;

create table Cust_Invoice2 (oid number(6),oname varchar2(15),billamount number(10),cid number(7) references cust_orders(cid));

select * from Cust_Invoice1

SQL Joins----

Do we need FK to join the two tables?

Ans---- NO

It is used display tha data from multiple tables.

create table custinfo1 (cid number(6),cname varchar2(15),ccity varchar2(20))

create table invoiceinfo1 (oid number(6),oname varchar2(15),billamount varchar2(20),custid number(7));

select * from custinfo1

select * from invoiceinfo1

1. Inner join

It dispalys the matching records from both side table based on specific condition.

select * from custinfo1 inner join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select cname,oname from custinfo1 inner join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select * from custinfo1 c1 inner join invoiceinfo1 i1 on c1.cid = i1.custid

cid

cid cname ccity oid oname billamt custid

101 Amitn Pune 206 Headphones 5000 101

102 Akash Mum 208 Mob 40000 102

102 Akash Mum 210 PD 1000 102

103 Mark Delhi 202 Mob 39000 103

104 Prriya Pune 201 Lap 70000 104

104 Prriya Pune 207 PD 1200 104

104 Prriya Pune 209 Lap 100000 104

110 Pooja Mum 204 Mob 50000 110

select cname,ccity,oname,billamount from custinfo1 inner join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select custinfo1.cname,custinfo1.ccity,invoiceinfo1.oname,invoiceinfo1.billamount from custinfo1 inner join invoiceinfo1

on custinfo1.cid=invoiceinfo1.custid---- In real time we practice this query.

select c1.cname,c1.ccity,i1.oname,i1.billamount from custinfo1 c1 inner join invoiceinfo1 i1 on c1.cid=i1.custid

on--- Its clasue which is use to apply specific condition during joining the tables.

1 A Mum 1007 Mob 140000 1

2 B Del 1004 Mob 20000 2

2 B Del 1008 Mob 70000 2

2 B Del 1009 Lap 90000 2

3 C Pune 1002 Mob 30000 3

4 D Nagpur 1001 PD 2000 4

4 D Nagpur 1003 Lap 60000 4

4 D Nagpur 1010 HD 80000 4

4 D Nagpur 1011 AC 87898 4

select * from invoiceinfo1 inner join custinfo1 on invoiceinfo1.custid=custinfo1.cid

select invoiceinfo1.oname,invoiceinfo1.billamount, custinfo1.cname,custinfo1.ccity from invoiceinfo1 inner join custinfo1 on invoiceinfo1.custid=custinfo1.cid

25th Nov 2021

Outer Join----

2. Left outer join/ Left Join-------It displays matching records from 2 tables and remaining records from left side table.

For that remaining records it will display null values to right side columns.

select * from custinfo1 left outer join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select * from invoiceinfo1 left outer join custinfo1 on invoiceinfo1.custid=custinfo1.cid

select * from custinfo1 left join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

1 A Mum 1007 Mob 1400 1

2 B Del 1004 Mob 20000 2

2 B Del 1008 Mob 70000 2

2 B Del 1009 Lap 90000 2

3 C Pune 1002 Mob 30000 3

4 D Nagpur 1001 PD 2000 4

4 D Nagpur 1003 Lap 60000 4

4 D Nagpur 1010 HD 80000 4

4 D Nagpur 1011 AC 87898 4

5 E Newyork Null Null Null Null

9 F London Null Null Null Null

10 G LA Null Null Null Null

3. Right outer join-----it displays matching records from 2 tables and remaining records from right side table.

For that remaining records it will display null values to left side columns

select * from custinfo1 right outer join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select * from custinfo1 right join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select * from invoiceinfo1 right outer join custinfo1 on invoiceinfo1.custid=custinfo1.cid

4. Full outer join----it displays matching records from 2 tables and remaining records from both side table.

For that remaining records it will display null values to left and right side columns.

select * from custinfo1 full outer join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

select * from custinfo1 full join invoiceinfo1 on custinfo1.cid=invoiceinfo1.custid

Asked in most of Recent interviews.

Q1.

A B

a1 a2 b1 b2

1 1 1 1

1 1 1 1

1 1 1 1

1 1 1 1

Q2.

A B

a1 a2 b1 b2

1 1 null 1

1 null 1 null

null 1 1 1

1 1 1 null

select * from A inner join B on A.a1=B.b1

results of inner,left,rightand full joins for above tables

Cross join---It is based on cartesian method. Each row of one table will be mapped with every row of second table.

1 4

2 5

3 3

4 6

5 7

select * from custinfo1

select * from invoiceinfo1

7 13-----91

6 12 ----72

4 4 ----16

4 5------ 20

6 5--------30

select * from custinfo1 cross join invoiceinfo1;

Equi join- It will display matching records from both tables. It will use where clause to apply condtion.

select * from custinfo1,invoiceinfo1 where custinfo1.cid=invoiceinfo1.custid

select custinfo1.cname,invoiceinfo1.oname,invoiceinfo1.billamount from custinfo1,invoiceinfo1 where custinfo1.cid=invoiceinfo1.custid

Non Equi join--- If we use other than equal to(=) operator, we call it as non equi join.

select * from custinfo1,invoiceinfo1 where custinfo1.cid!=invoiceinfo1.custid

1 !=4

1!=

1---12

2---10

3----12

4---- 9

5----13

9----13

10---13

select * from custinfo1,invoiceinfo1 where custinfo1.cid>=invoiceinfo1.custid

1>=4---false

1---1

2---4

3---5

4---9

5---9

9---9

10--9

26th Nov 2021

Self join-- A table join with itself is known as Self Join.

select * from emp25;

select * from emp25 e1 inner join emp25 e2 on e1.mid=e2.eid

101	Akash	103	103	Amit	105
102	Priya	105	105	Riya	105
103	Amit	105	105	Riya	105
104	Pooja	101	101	Akash	103
105	Riya	105	105	Riya	105

empname	mangaername
Akash	Amit
Priya	Riya
Amit	Riya
Pooja	Akash
Riya	Riya

select e1.fname as empname,e2.fname as mngrname from emp25 e1 inner join emp25 e2 on e1.mid=e2.eid

101 Amit 108 108 Shivani 103

102 Akash 105 105 Yusuf 110

103 Pooja 105 105 Yusuf 110

108 Shivani 103 103Pooja 105

105 Yusuf 110 110 Abhi 110

110 Abhi 110 110 Abhi 110

113 Amit 102 102 Akash 105

How to/can u join more than 5 tables?

--Yes ofcourse.

--can you provide me a high level design?

select * from custinfo1

select * from invoiceinfo1

```
select * from location_info

select * from custinfo1 c1 inner join invoiceinfo1 i1

on c1.cid=i1.custid inner join location_info loc1

on c1.cid=loc1.cid inner join xyz x1

on c1.cid=x1.cid inner join pqr p1

on c1.cid=p1.cid
```

xyz

cid--101 108 110 103 101 105

4 table join results- 3

101

101

103

pqr

cid=108 103 105 105 170

5 table join results- 1

.....so on you can join n no of tables.

104	Prriya	Pune	201	Lap	70000	104	5015	Banglore	104
103	Mark	Delhi	202	Mob	39000	103	8910	Delhi	103
101	Amit	Pune	206	Headphones	5000	101	6014	Kanpur	101
104	Prriya	Pune	207	PD	1200	104	5015	Banglore	104
104	Prriya	Pune	209	Lap	100000	104	5015	Banglore	104

how to join 3 tables?

```
select * from custinfo1 c1 inner join invoiceinfo1 i1

on c1.cid=i1.custid inner join location_info l1

on c1.cid=l1.cid

select c1.cname,i1.oname,c1.ccity,l1.column1 as shippingAdd from custinfo1 c1 inner join
invoiceinfo1 i1
```

on c1.cid=i1.custid inner join location_info l1

on c1.cid=l1.cid

4 D Nagpur 1001 PD 80000 4 1003 4 Del

3 C Pune 1002 Mob 30000 3 1001 3 Pune

4 D Nagpur 1003 Lap 60000 4 1003 4 Del

1 A Mum 1007 Mob 14000 1 1002 1 Mum

4 D Nagpur 1010 HDD 80000 4 1003 4 Del

4 D Nagpur 1011 AC 87898 4 1003 4 Del

Homework 26th Nov 2021

do practice on left right and full outer joins with multiple table joins

eg

select * from custinfo1 c1 inner join invoiceinfo1 i1

on c1.cid=i1.custid left join location_info loc1

on c1.cid=loc1.cid right join xyz x1

on c1.cid=x1.cid full join pqr p1

on c1.cid=p1.cid