**CS6106 DATABASE MANAGEMENT SYSTEMS**

**ASSIGNMENT 6**

**Course Instructor: V P JAYACHITRA Date: 12-03-24 Views**

∙ A **view** is a logical representation of a table or combination of tables. ∙ Views can provide a different representation (such as subsets or supersets) of the data that resides within other tables and views.

∙ Views are very powerful because they allow you to tailor the presentation of data to different types of users.

∙ A view derives its data from the tables on which it is based. These tables are called **base tables**. Base tables might in turn be actual tables or might be views themselves.

∙ All operations performed on a view actually affect the base table of the view. ∙ Use views in almost the same way as tables. i.e We can query, update, insert into, and delete from views, just as we can standard tables.

**Example:**

**CREATE VIEW emp\_dept AS**

**SELECT emp.empno, emp.ename, emp.deptno, emp.sal, dept.dname, dept.loc**

**FROM emp, dept**

**WHERE emp.deptno = dept.deptno**

**AND dept.loc IN ('DALLAS', 'NEW YORK', 'BOSTON');**

**UPDATE Statements**

The following example shows an UPDATE statement that successfully modifies the emp\_dept view:

**UPDATE emp\_dept**

**SET sal = sal \* 1.10**

**WHERE deptno = 10;**

The following UPDATE statement would be disallowed on the emp\_dept view:

**UPDATE emp\_dept**

**SET loc = 'BOSTON'**

**WHERE ename = 'SMITH'**;

This statement fails with an error (ORA-01779 cannot modify a column which maps to a non key preserved table), because it attempts to modify the base dept table, and the dept table is not key-preserved in the emp\_dept view.

**UPDATE emp\_dept**

**SET deptno = 10**

**WHERE ename = 'SMITH';**

The statement fails because it is trying to update a join column.

create table dept\_503003(

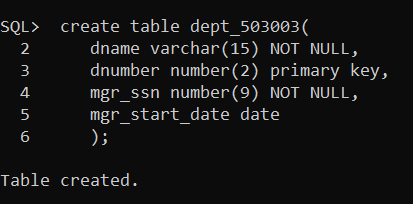
dname varchar(15) NOT NULL,

dnumber number(2) primary key,

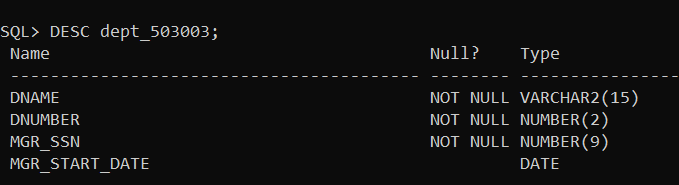
mgr\_ssn number(9) NOT NULL,

mgr\_start\_date date

);



dept\_503003;



CREATE TABLE emp\_503003(

Fname varchar2(20) NOT NULL,

Minit char(1),

Lname varchar2(20) not null,

ssn number(9) primary key,

bdate date not null,

address varchar2(40),

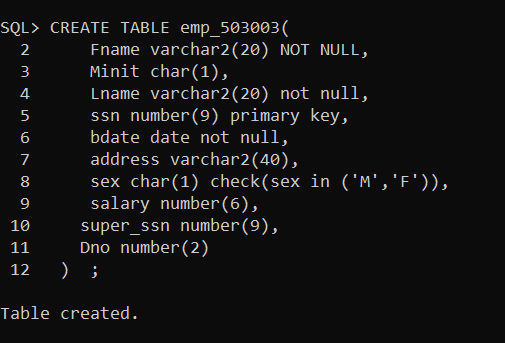
sex char(1) check(sex in ('M','F')),

salary number(6),

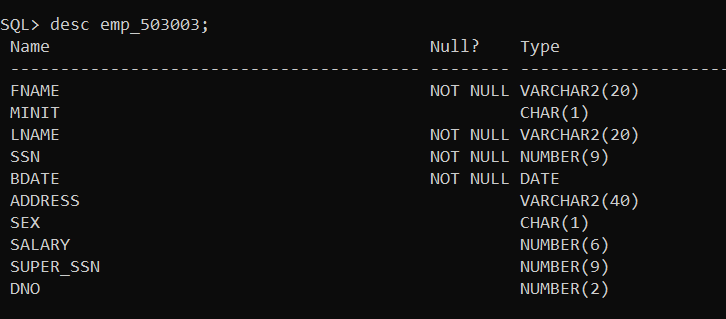
super\_ssn number(9),

Dno number(2)

) ;

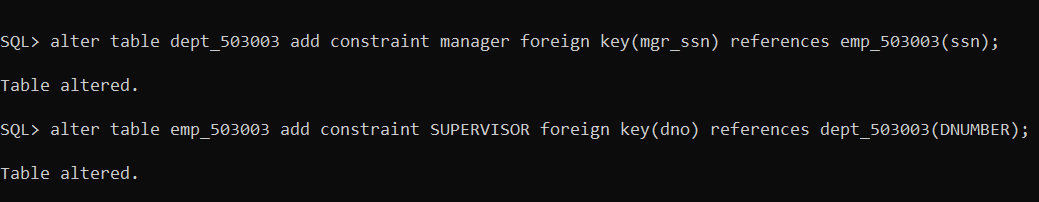


desc emp\_503003;

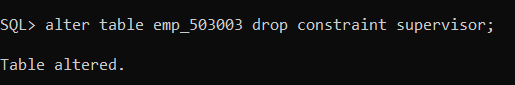


alter table dept\_503003 add constraint manager foreign key(mgr\_ssn) references emp\_503003(ssn);

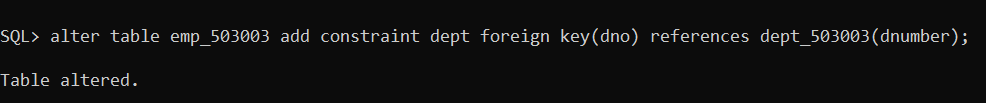
alter table emp\_503003 add constraint SUPERVISOR foreign key(dno) references dept\_503003(DNUMBER);



alter table emp\_503003 drop constraint supervisor;



alter table emp\_503003 add constraint dept foreign key(dno) references dept\_503003(dnumber);



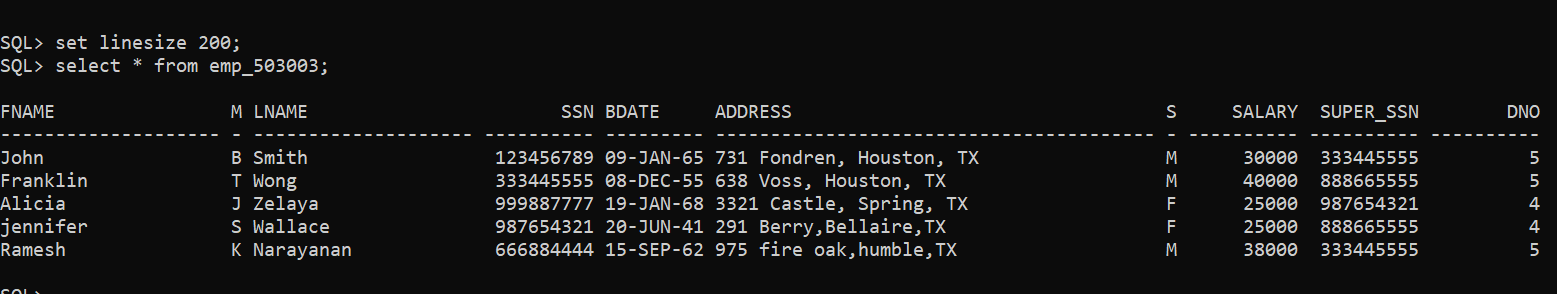
insert into emp\_503003 values('John', 'B', 'Smith', 123456789, to\_date('1965-01-09', 'yyyy-mm-dd'), '731 Fondren, Houston, TX', 'M', 30000, 333445555, 5);

insert into emp\_503003 values('Franklin', 'T', 'Wong', 333445555, to\_date('1955-12-08', 'yyyy-mm-dd'), '638 Voss, Houston, TX', 'M', 40000, 888665555, 5);

insert into emp\_503003 values('Alicia', 'J', 'Zelaya', 999887777, to\_date('1968-01-19', 'yyyy-mm-dd'), '3321 Castle, Spring, TX', 'F', 25000, 987654321, 4);

insert into emp\_503003 values('jennifer', 'S', 'Wallace', 987654321, to\_date('1941-06-20', 'yyyy-mm-dd'),'291 Berry,Bellaire,TX',’F’,25000,888665555,4);

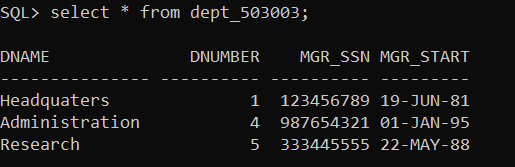
Insert into emp\_503003 values('Ramesh', 'K', 'Narayanan', 666884444, to\_date('1962-09-15', 'yyyy-mm-dd'),'975 fire oak,humble,TX','M',38000,333445555,5);



insert into dept\_503003 values('Research', 5, 333445555, to\_date('1988-05-22', 'yyyy-mm-dd'));

insert into dept\_503003 values('Administration',4,987654321,to\_date('1995-01-01','yyyy-mm-dd'));

insert into dept\_503003 values('Headquaters',1,123456789,to\_date('1981-06-19','yyyy-mm-dd'));

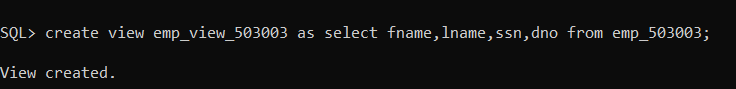


**Verify the following**

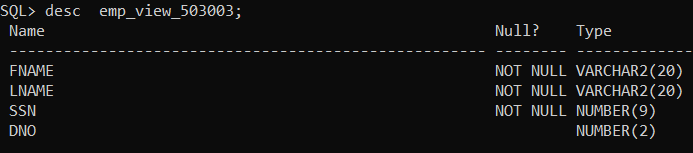
**1. Insert , update, delete on simple views that reflects views and base table.**

CREATION:

create view emp\_view\_503003 as select fname,lname,ssn,dno from emp\_503003;

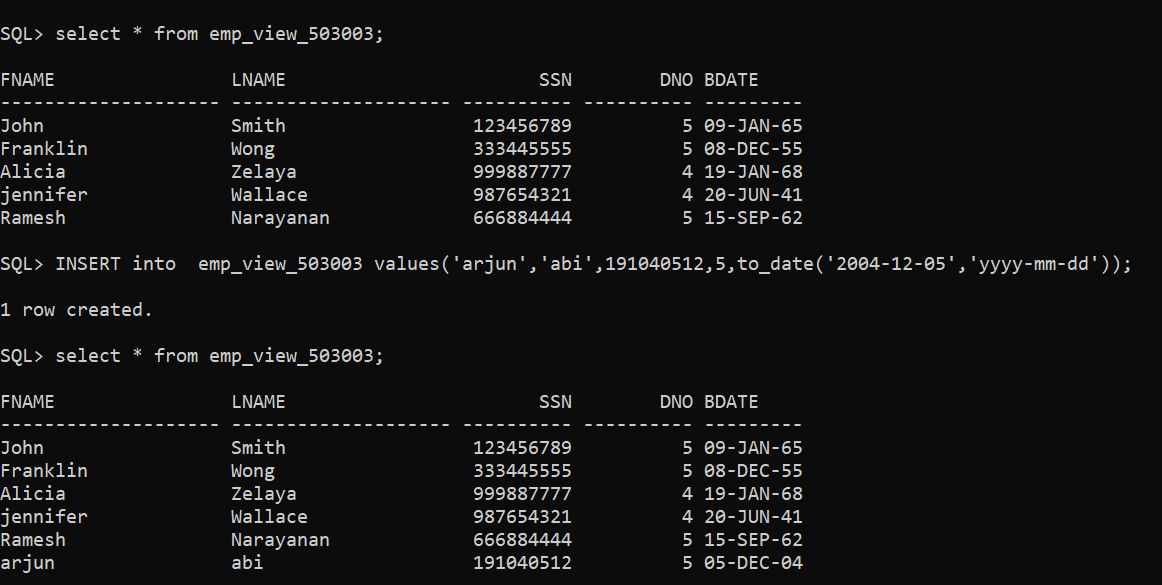
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desc emp\_view\_503003;

****

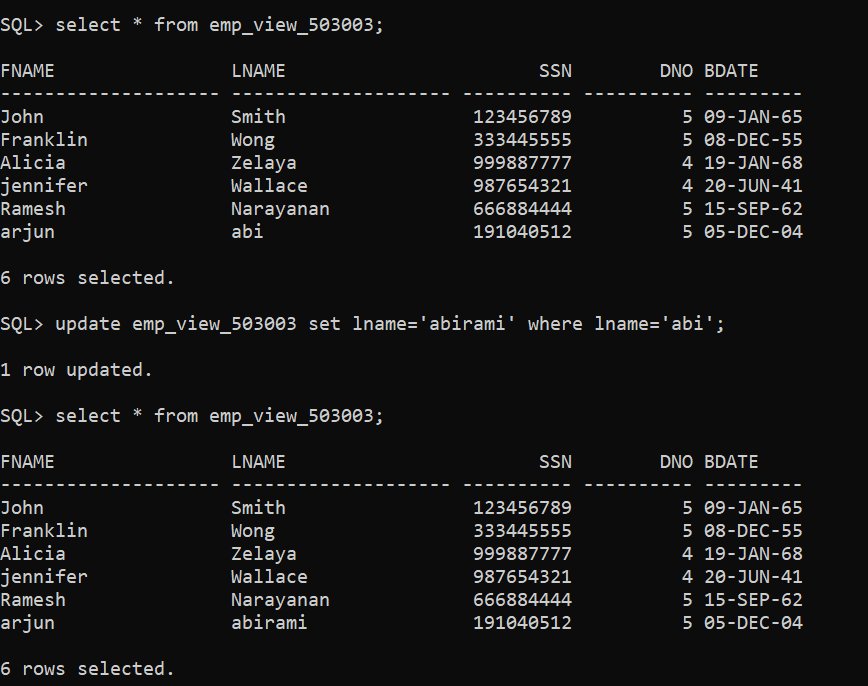
INSERTION:

INSERT into emp\_view\_503003 values('arjun','abi',191040512,5,to\_date('2004-12-05','yyyy-mm-dd'));



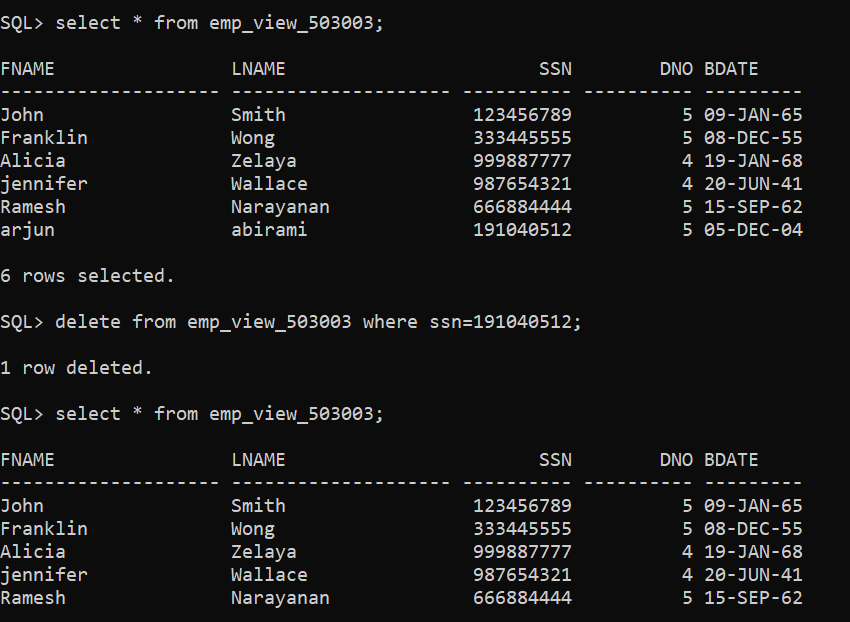
UPDATION:

update emp\_view\_503003 set lname='abirami' where lname='abi';



DELETION:

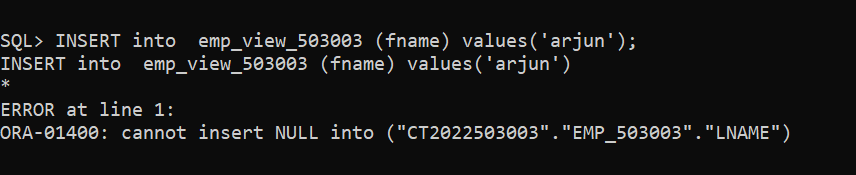
delete from emp\_view\_503003 where ssn=191040512;



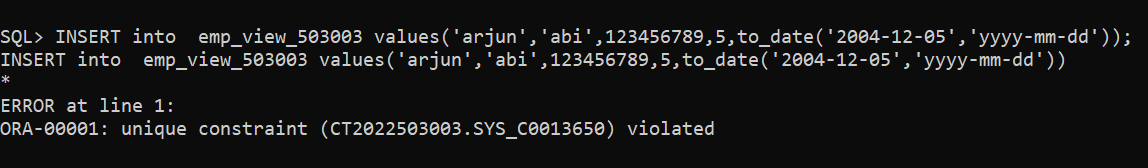
**2. Insert, delete, update on simple views that violate the constraint such as primary key. Note: primary key of a table is a foreign key on other table.**

INSERT:

INSERT into emp\_view\_503003 (fname) values('arjun');

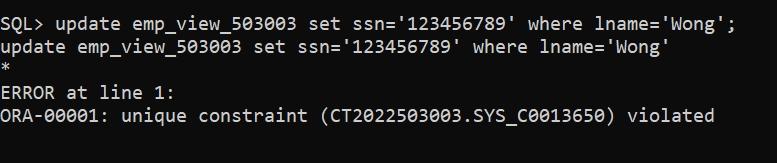


INSERT into emp\_view\_503003 values('arjun','abi',123456789,5,to\_date('2004-12-05','yyyy-mm-dd'));



UPDATE:

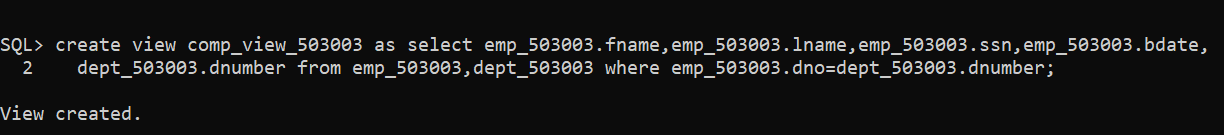
update emp\_view\_503003 set ssn='123456789' where lname='Wong';



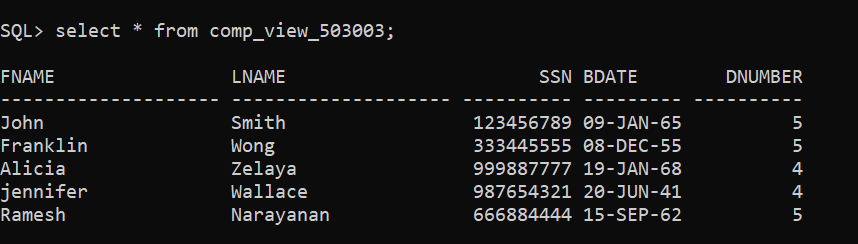
**3. Insert, update, delete on complex views that reflects views and base table.**

CREATION:  
create view comp\_view\_503003 as select emp\_503003.fname,emp\_503003.lname,emp\_503003.ssn,emp\_503003.bdate,

dept\_503003.dnumber from emp\_503003,dept\_503003 where emp\_503003.dno=dept\_503003.dnumber;

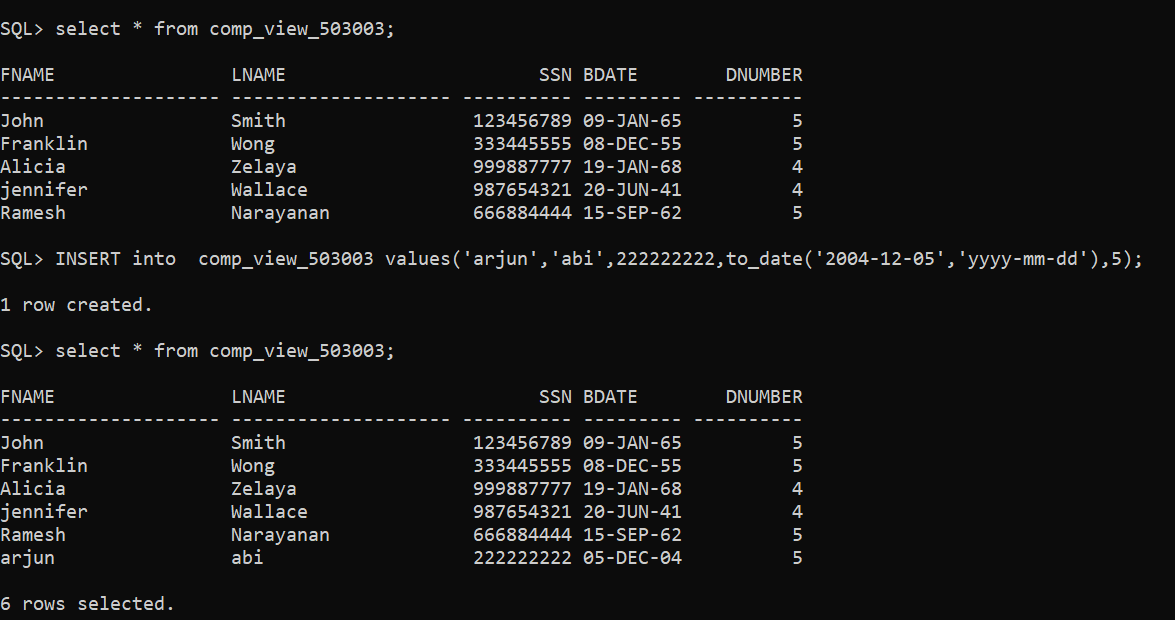


select \* from comp\_view\_503003;

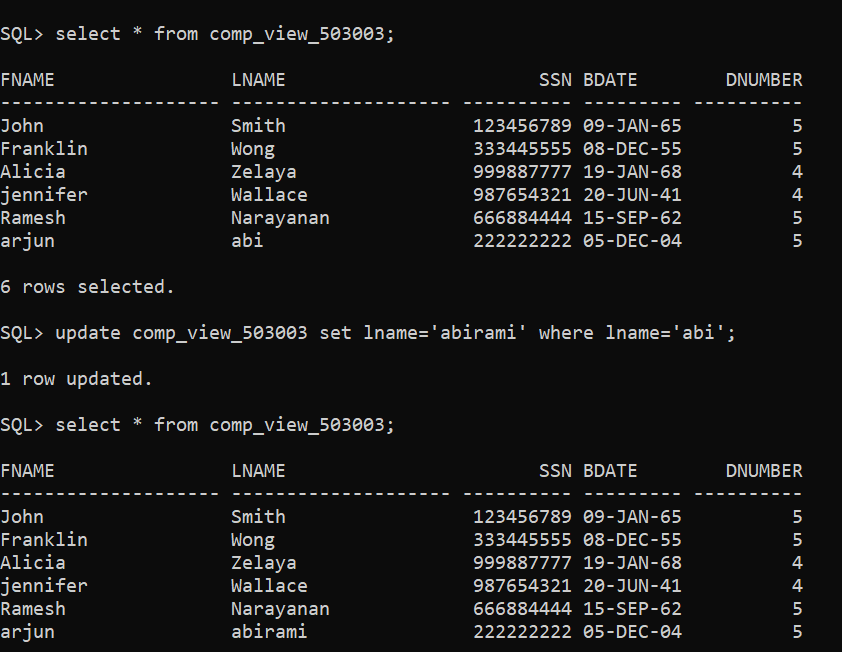


INSERT:

INSERT into comp\_view\_503003 values('arjun','abi',222222222,to\_date('2004-12-05','yyyy-mm-dd'),5);

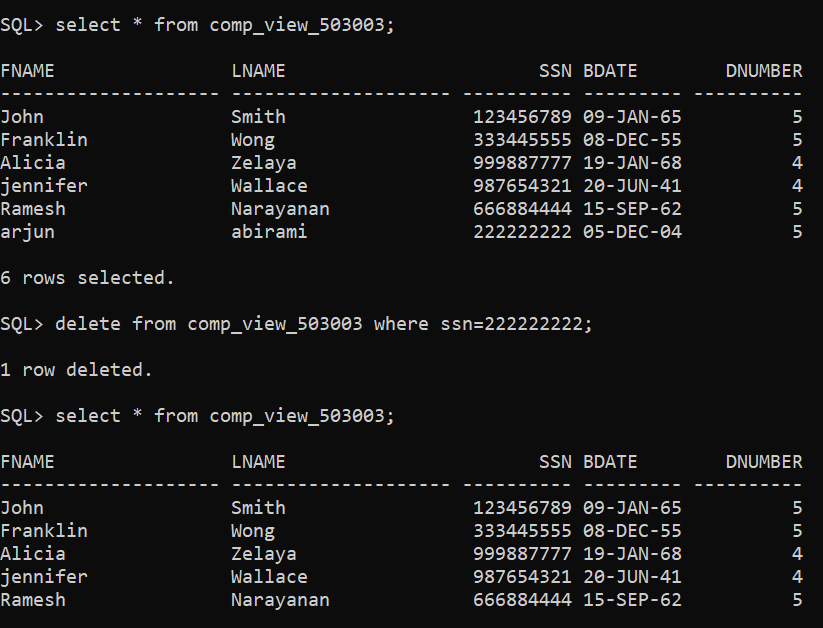


UPDATION:



DELETION:

delete from comp\_view\_503003 where ssn=222222222;

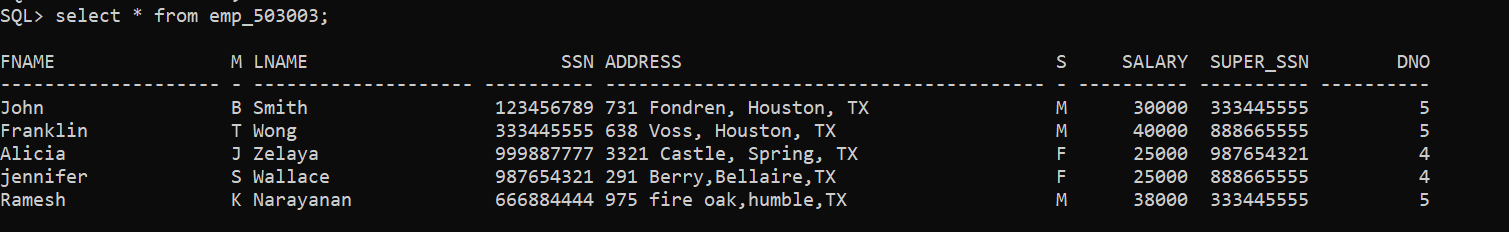


**4. Drop view and perform query on base table and vice versa.**

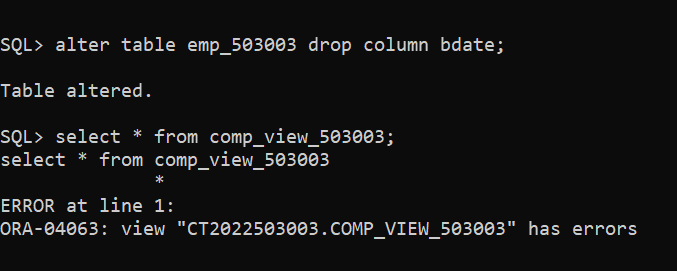
alter table emp\_503003 drop constraint manager foreign key(mgr\_ssn) references emp\_503003(ssn);

**5. Drop column in base table after creation of view with the respective column and perform select query on view.**

select \* from emp\_503003;

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alter table emp\_503003 drop column bdate;

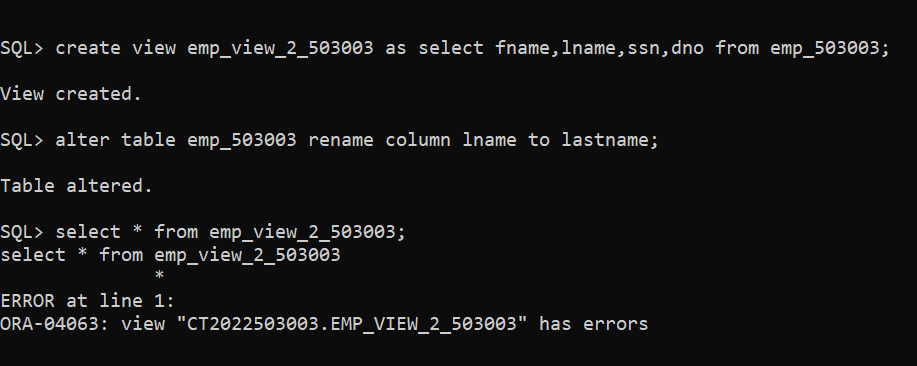
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**6. Rename column in base table after creation of view with the respective column and perform select query on view.**

create view emp\_view\_2\_503003 as select fname,lname,ssn,dno from emp\_503003;

alter table emp\_503003 rename column lname to lastname;

select \* from emp\_view\_2\_503003;

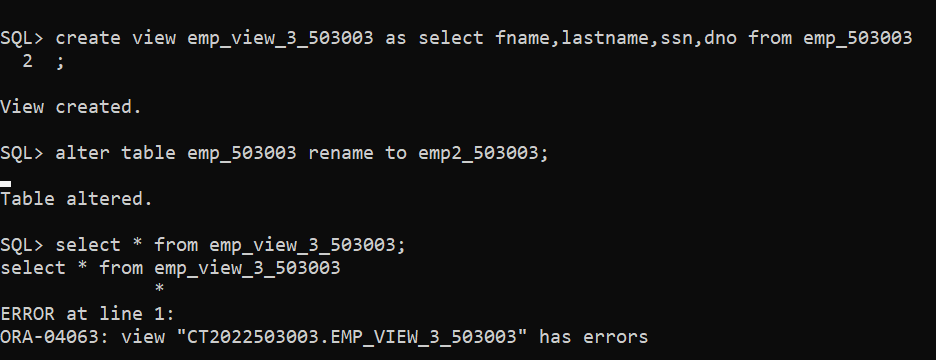


**7. Rename table in base table after creation of view and perform select query on view.**

create view emp\_view\_3\_503003 as select fname,lastname,ssn,dno from emp\_503003 ;

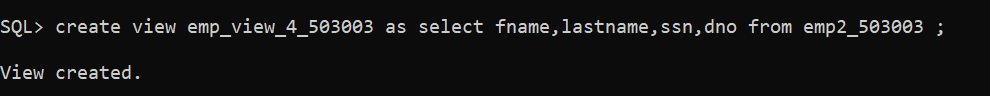
alter table emp\_503003 rename to emp2\_503003;

select \* from emp\_view\_3\_503003;

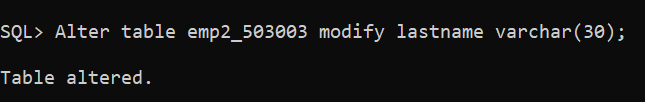
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**8. Modify data type of a column in base table after creation of view with the respective column and perform select query on view.**

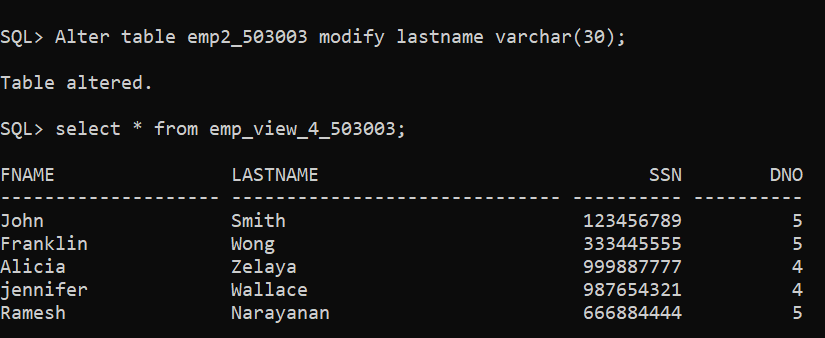
create view emp\_view\_4\_503003 as select fname,lastname,ssn,dno from emp2\_503003 ;



Alter table emp2\_503003 add lastname varchar(30);



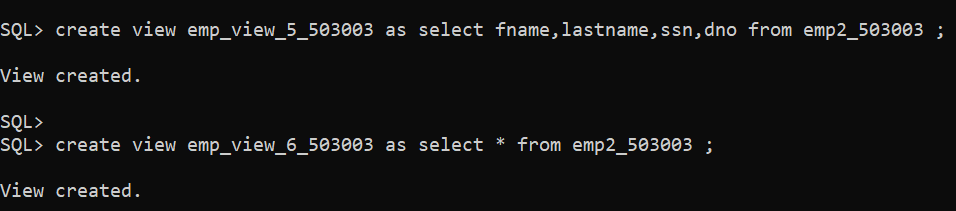
select \* from emp\_view\_4\_503003;



**9. Create a view from existing view**

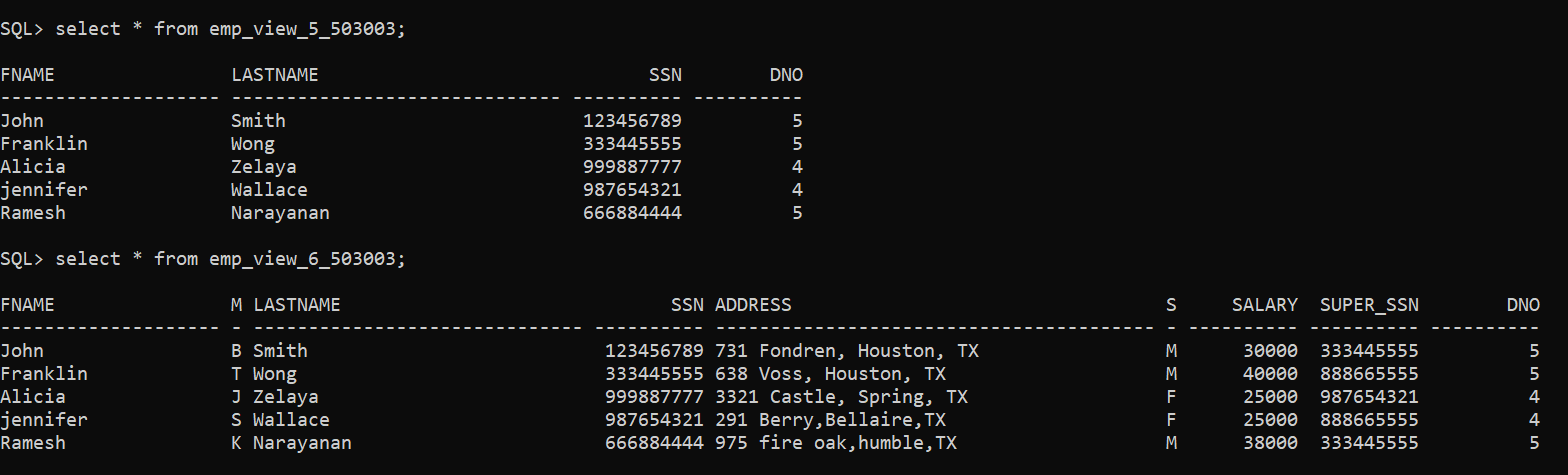
create view emp\_view\_5\_503003 as select fname,lastname,ssn,dno from emp2\_503003 ;

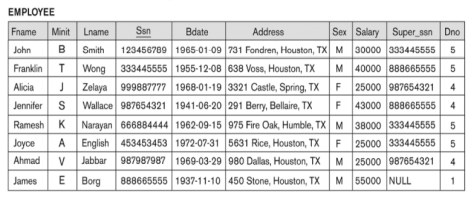
create view emp\_view\_6\_503003 as select \* from emp2\_503003 ;

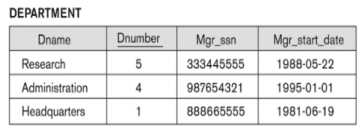
****

select \* from emp\_view\_5\_503003;

select \* from emp\_view\_6\_503003;

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** Note: Insert sample 5 records**

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