HORIZONTAL FRAGMENTATION

HORIZONTAL FRAG:

create table Frag1 as

(select * from Applicant

where Occupation='Student');

create table Frag2 as

(select * from Applicant

 where Occupation='Service');

create table Frag3 as

(select * from Applicant

 where Occupation='Business');

INSERT TRIGGER:

CREATE OR REPLACE TRIGGER HOR_INSERT

AFTER INSERT

ON system.Applicant

FOR EACH ROW

BEGIN

IF(:new.Occupation = 'Student')

Then

	insert into system.Frag1
values(:new.Applicant_ID,:new.Aadhar_No,:new.First_Name,:new.Middle_Name,:new.Last_Name,:new.Address,:new.Phone_NO,:new.Gender,:new.Email_ID,:new.DOB,:new.Bank_Details,:new.Occupation,:new.Login_ID,:new.Login_Passowrd,:new.Maritial_status,:new.Nationality,:new.Apply_Date);

ELSIF(:new.Occupation='Service')

Then

	insert into harshini.Frag2
values(:new.Applicant_ID,:new.Aadhar_No,:new.First_Name,:new.Middle_Name,:new.Last_Name,:new.Address,:new.Phone_NO,:new.Gender,:new.Email_ID,:new.DOB,:new.Bank_Details,:new.Occupation,:new.Login_ID,:new.Login_Passowrd,:new.Maritial_status,:new.Nationality,:new.Apply_Date);

ELSE

	insert into jyoti.Frag3
values(:new.Applicant_ID,:new.Aadhar_No,:new.First_Name,:new.Middle_Name,:new.Last_Name,:new.Address,:new.Phone_NO,:new.Gender,:new.Email_ID,:new.DOB,:new.Bank_Details,:

new.Occupation,:new.Login_ID,:new.Login_Passowrd,:new.Maritial_status,:new.Nationality,:new.Apply_Date);
END IF;
END;

INSERT QUERY:
INSERT INTO system.Applicant VALUES
(1,12345,'Sumeet','Kiran','Sarode','Nashik',8888854293,'M','sumeet@gmail.com','02/May/1997',
62121971791,'Student','1','sumeet','unmarried','Indian','02/Feb/2018');

Select Applicant_ID from system.Applicant;
Select Applicant_ID from system.Frag1;
Select Applicant_ID from harshini.Frag2;
Select Applicant_ID from jyoti.Frag3;

DELETE TRIGGER:
Create or Replace trigger HOR_DELETE
before delete on system.Applicant for each row
Begin
delete from system.Frag1
where Applicant_ID = :old.Applicant_ID;
delete from harshini.Frag2
where Applicant_ID = :old.Applicant_ID;
delete from jyoti.Frag3
where Applicant_ID = :old.Applicant_ID;
end;

DELET QUERY
delete from system.Applicant where Applicant_ID=1;

Select Applicant_ID from system.Applicant;
Select Applicant_ID from system.Frag1;
Select Applicant_ID from harshini.Frag2;
Select Applicant_ID from jyoti.Frag3;

DERIVED FRAGMENTATION

DERIVED FRAGMENTS:

create table HF1 as

(select a.Applicant_ID,a.Emp_ID,a.Appointment_DATE,a.Appointment_TIME,a.Status
 From system.VandS a,system.Frag1 b
where a.Applicant_ID=b.Applicant_ID);

create table HF2 as

(select a.Applicant_ID,a.Emp_ID,a.Appointment_DATE,a.Appointment_TIME,a.Status
 from system.VandS a,harshini.Frag2 b
where a.Applicant_ID=b.Applicant_ID);

create table HF3 as

(select a.Applicant_ID,a.Emp_ID,a.Appointment_DATE,a.Appointment_TIME,a.Status
 from system.VandS a,jyoti.Frag3 b
where a.Applicant_ID=b.Applicant_ID);

DERIVED HORIZONTAL TRIGGER FOR INSERT:

Create or replace trigger HF_INS

Before insert on system.VandS

For each row

Begin

Insert into sumeet.HF1
values(:new.Applicant_ID,:new.Emp_ID,:new.Appointment_DATE,:new.Appointment_TIME,:
new.Status);

Insert into jyoti.HF2
values(:new.Applicant_ID,:new.Emp_ID,:new.Appointment_DATE,:new.Appointment_TIME,:
new.Status);

Insert into harshini.HF3
values(:new.Applicant_ID,:new.Emp_ID,:new.Appointment_DATE,:new.Appointment_TIME,:
new.Status);

End;

Insert Query

INSERT INTO system.Applicant
values
(10,12995425,'Rahul','Sunil','Dhameja','Kalyan',9021155293,'M','rahul@gmail.com','17/Jul/1997'
,62002971791,'Service','10','rahul','married','Indian','22/Feb/2018');
INSERT INTO harshini.EMPLOYEE
VALUES(116,'Vivek','Thane','Manager','Resources',45000,'02/Dec/1989','116','vivek',9801
254293);

Insert into system.VandS values(10,116,'11/Apr/2018','06/Apr/2018 11:50:45','Approved');

Select Applicant_ID,Emp_ID from system.VandS;
Select Applicant_ID,Emp_ID from sumeet.HF1;
Select Applicant_ID,Emp_ID from jyoti.HF2;
Select Applicant_ID,Emp_ID from harshini.HF3;

DERIVED HORIZONTAL TRIGGER FOR DELETE:

Create or replace trigger HF_DEL
Before delete on system.VandS
For each row
Begin
Delete from sumeet.HF1
Where HF1.Applicant_ID= :old.Applicant_ID;
Delete from jyoti.HF2
Where HF2.Applicant_ID= :old.Applicant_ID;
Delete from harshini.HF3
Where HF3.Applicant_ID= :old.Applicant_ID;
End;

Delete Query

delete from system.VandS where Applicant_ID=10;

Select Applicant_ID,Emp_ID from system.VandS;
Select Applicant_ID,Emp_ID from sumeet.HF1;
Select Applicant_ID,Emp_ID from jyoti.HF2;
Select Applicant_ID,Emp_ID from harshini.HF3;

HYBRID FRAGMENTATION

FRAGMENTS:
FRAGMENT 11 :
Create table Frag11 as
(Select
Applicant_ID,Aadhar_No,First_Name,Last_Name,Middle_Name,Address,Phone_No,Email_ID,
DOB,Gender,Occupation,Maritial_status,Nationality from Frag1);

FRAGMENT 12 :
Create table Frag12 as
(Select Applicant_ID,Bank_Details,Login_ID,Login_Passowrd from Frag1);

FRAGMENT 21 :
Create table Frag21 as
(Select
Applicant_ID,Aadhar_No,First_Name,Last_Name,Middle_Name,Address,Phone_No,Email_ID,
DOB,Gender,Occupation,Maritial_status,Nationality from Frag2);

FRAGMENT 22 :
Create table Frag22 as
(Select Applicant_ID,Bank_Details,Login_ID,Login_Passowrd from Frag2);

FRAGMENT 31 :
Create table Frag31 as
(Select
Applicant_ID,Aadhar_No,First_Name,Last_Name,Middle_Name,Address,Phone_No,Email_ID,
DOB,Gender,Occupation,Maritial_status,Nationality from jyoti.Frag3);

FRAGMENT 32 :
Create table Frag32 as
(Select Applicant_ID,Bank_Details,Login_ID,Login_Passowrd from jyoti.Frag3);

TRIGGERS

INSERT TRIGGER (Frag1) :

Create or replace trigger HYBRID_INSERT1
After insert
        on system.Frag1
For each row
Begin
        Insert into harshini.Frag11
values(:new.Applicant_ID,:new.Aadhar_No,:new.First_Name,:new.Last_Name,:new.Middle_Name,:new.Address,:new.Phone_No,:new.Email_ID,:new.DOB,:new.Gender,:new.Occupation,:new.Maritial_status,:new.Nationality);
        Insert into jyoti.Frag12
values(:new.Applicant_ID,:new.Bank_Details,:new.Login_ID,:new.Login_Passowrd);
End;

INSERT QUERY(Frag1) :
Insert into system.Applicant
values(30,1234,'Sumeet','Kiran','Sarode','Nashik',8888854293,'M','sumeet@gmail.com','02/May/1997',123456,'Student','30','sumeet','married','Indian','02/Jan/2017');

Select Applicant_ID from system.Applicant;
Select Applicant_ID from harshini.Frag11;
Select Applicant_ID from jyoti.Frag12;
Select Applicant_ID from system.Frag21;
Select Applicant_ID from jyoti.Frag22;
Select Applicant_ID from system.Frag31;
Select Applicant_ID from harshini.Frag32;

INSERT TRIGGER(Frag2) :

Create or replace trigger HYBRID_INSERT2
After insert
        on harshini.Frag2
For each row
Begin
        Insert into system.Frag21
values(:new.Applicant_ID,:new.Aadhar_No,:new.First_Name,:new.Last_Name,:new.Middle_Name,:new.Address,:new.Phone_No,:new.Email_ID,:new.DOB,:new.Gender,:new.Occupation,:new.Maritial_status,:new.Nationality);
        Insert into jyoti.Frag22
values(:new.Applicant_ID,:new.Bank_Details,:new.Login_ID,:new.Login_Passowrd);
End;

INSERT QUERY(Frag2) :
Insert into system.Applicant
values(31,2234,'Harshini','Ramesh','Sewani','Chembur',9878854293,'F','harshini@gmail.com','17/Apr/1997',127656,'Service','31','harshini','unmarried','Indian','08/Jan/2017');

Select Applicant_ID from system.Applicant;
Select Applicant_ID from harshini.Frag11;
Select Applicant_ID from jyoti.Frag12;
Select Applicant_ID from system.Frag21;
Select Applicant_ID from jyoti.Frag22;
Select Applicant_ID from system.Frag31;
Select Applicant_ID from harshini.Frag32;

INSERT TRIGGER(Frag3) :
Create or replace trigger HYBRID_INSERT3
After insert
     on jyoti.Frag3
For each row
Begin
     Insert into system.Frag31
values(:new.Applicant_ID,:new.Aadhar_No,:new.First_Name,:new.Last_Name,:new.Middle_Name,:new.Address,:new.Phone_No,:new.Email_ID,:new.DOB,:new.Gender,:new.Occupation,:new.Maritial_status,:new.Nationality);
     Insert into harshini.Frag32
values(:new.Applicant_ID,:new.Bank_Details,:new.Login_ID,:new.Login_Passowrd);
End;

INSERT QUERY(Frag3) :
Insert into system.Applicant
values(32,9084,'Jyoti','Girish','Tejwani','Kalyan',9876544293,'F','jyoti@gmail.com','29/Apr/1997',234556,'Business','32','jyoti','unmarried','Indian','12/Feb/2017');

Select Applicant_ID from system.Applicant;
Select Applicant_ID from harshini.Frag11;
Select Applicant_ID from jyoti.Frag12;
Select Applicant_ID from system.Frag21;
Select Applicant_ID from jyoti.Frag22;
Select Applicant_ID from system.Frag31;
Select Applicant_ID from harshini.Frag32;

DELETE TRIGGER(Frag1) :
Create or replace trigger HYBRID_DELETE1
Before delete
     on system.Frag1
For each row
Begin
     Delete from harshini.Frag11
     Where Applicant_ID = :old.Applicant_ID;
     Delete from jyoti.Frag12
     Where Applicant_ID = :old.Applicant_ID;

End;

Delete from system.Applicant where Applicant_ID=30;

Select Applicant_ID from system.Applicant;
Select Applicant_ID from harshini.Frag11;
Select Applicant_ID from jyoti.Frag12;

DELETE TRIGGER(Frag2) :
Create or replace trigger HYBRID_DELETE2
Before delete
    on harshini.Frag2
For each row
Begin
    Delete from system.Frag21
    Where Applicant_ID = :old.Applicant_ID;
    Delete from jyoti.Frag22
    Where Applicant_ID = :old.Applicant_ID;
End;

DELETE QUERY(Frag2) :
Delete from system.Applicant where Applicant_ID=31;

Select Applicant_ID from system.Applicant;
Select Applicant_ID from system.Frag21;
Select Applicant_ID from jyoti.Frag22;

DELETE TRIGGER(Frag3) :
Create or replace trigger HYBRID_DELETE3
Before delete
    on jyoti.Frag3
For each row
Begin
    Delete from system.Frag31
    Where Applicant_ID = :old.Applicant_ID;
    Delete from harshini.Frag32
    Where Applicant_ID = :old.Applicant_ID;
End;

DELETE QUERY(Frag3) :
Delete from system.Applicant where Applicant_ID=32;

Select Applicant_ID from system.Applicant;
Select Applicant_ID from system.Frag31;
Select Applicant_ID from harshini.Frag32;

VERTICAL FRAGMENTATION

VERTICAL FRAGMENTS :
Create table VF1 as
select Emp_ID,Emp_Name,Address,DOB,Phone_no from Employee;

Create table VF2 as
Select Emp_ID,Designation,Department,Salary,Login_ID,Password from Employee;

INSERT TRIGGER:
Create or Replace trigger ins_emp
After insert on harshini.Employee
for each row
Begin
        Insert into system.VF1
values(:new.Emp_ID,:new.Emp_Name,:new.Address,:new.DOB,:new.Phone_no);
        Insert into jyoti.VF2
values(:new.Emp_ID,:new.Designation,:new.Department,:new.Salary,:new.Login_ID,:new.Password);
end;

INSERT QUERY:
Insert into harshini.Employee
values(111,'Kajol','Thane','Manager','Resources',4500,'12/Jun/1988','111','kajol',9821654340);

Select Emp_ID from harshini.Employee;
Select Emp_ID from system.VF1;
Select Emp_ID from jyoti.VF2;

DELETE TRIGGER:
Create or Replace trigger del_emp
before delete on harshini.Employee for
each row
Begin
delete from systemVF1
where Emp_ID = :old.Emp_ID;
delete from jyoti.VF2
where Emp_ID = :old.Emp_ID;
end;

DELETE QUERY:
delete from harshini.Employee where Emp_ID=111;

```
Select Emp_ID from harshini.Employee;
Select Emp_ID from system.VF1;
Select Emp_ID from jyoti.VF2;
```

CREATE TABLE PASSPORT :

Create table Passport
(
Passport_ID number(20) not null,
Applicant_ID number(20) not null,
DOI date,
CONSTRAINT p1_fk foreign key(Applicant_ID) References system.Applicant(Applicant_ID),
CONSTRAINT p2_fk foreign key(DOI) References system.VandS(Appointment_Date)
);
CREATE TABLE PASSPORTREJECT :

Create table PassportReject
(
Applicant_ID number(20) not null,
CONSTRAINT pr1_fk foreign key(Applicant_ID) References system.Applicant(Applicant_ID)
);

CREATE TABLE PASSPORTPENDING :

Create table PassportPending
(
Applicant_ID number(20) not null,
CONSTRAINT pp1_fk foreign key(Applicant_ID) References system.Applicant(Applicant_ID)
);

CREATE TRIGGER FOR AUTO INCREMENT :
create sequence test_seq1 start with 4012 increment by 1 nocycle;

create or replace trigger test_trg
before insert on system.Passport
for each row
begin
:new.Passport_ID := test_seq1.nextval;
End;

INSERT TRIGGER:
Create or replace trigger PAS_INS
After insert on system.VandS
For each row
Begin
IF :new.Status='Approved'
Then
        Insert into system.Passport(Applicant_ID,DOI)
values(:new.Applicant_ID,:new.Appointment_Date);
ELSIF :new.Status='Pending'
Then
        Insert into system.PassportPending(Applicant_ID) values(:new.Applicant_ID);

```
ELSE
        Insert into system.PassportReject(Applicant_ID) values(:new.Applicant_ID);
End IF;
End;
```

INSERT QUERY:
1) INSERT INTO system.Applicant
values
(10,12995425,'Rahul','Sunil','Dhameja','Kalyan',9021155293,'M','rahul@gmail.com','17/Jul/1997'
,62002971791,'Service','10','rahul','married','Indian','22/Feb/2018');

INSERT INTO harshini.EMPLOYEE
VALUES(116,'Vivek','Thane','Manager','Resources',45000,'02/Dec/1989','116','vivek',9801
254293);

Insert into system.VandS values(10,116,'11/Apr/2018','06/Apr/2018 11:50:45','Approved');

Select Applicant_ID from system.VandS;

Select Passport_ID,Applicant_ID from system.Passport;

Select Applicant_ID from system.PassportPending;

Select Applicant_ID from system.PassportReject;

2) INSERT INTO system.Applicant
VALUES
(5,123454,'Aakash','sumeet','Patil','Nashik',8888855293,'M','aakash@gmail.com','02/Aug/1997',6
2125971791,'student','5','aakash','unmarried','Indian','01/Feb/2018');

INSERT INTO harshini.EMPLOYEE
VALUES(115,'Yohan','Nashik','Designer','Designing',80000,'12/Jan/1990','115','yohan',888
8752293);

Insert into system.VandS values(5,115,'21/Apr/2018','21/Apr/2018 11:50:45','Pending');

Select Applicant_ID from system.VandS;

Select Passport_ID,Applicant_ID from system.Passport;

Select Applicant_ID from system.PassportPending;

Select Applicant_ID from system.PassportReject;

DELETE TRIGGER:

Create or replace trigger PAS_DEL
Before delete on system.VandS
For each row
Begin
       Delete from system.Passport
       Where Applicant_ID=:old.Applicant_ID;
       Delete from system.PassportReject
       Where Applicant_ID=:old.Applicant_ID;
       Delete from system.PassportPending
       Where Applicant_ID=:old.Applicant_ID;
End;

DELETE QUERY:
Delete from system.VandS where Applicant_ID=5;
Delete from system.VandS where Applicant_ID=10;

Select Applicant_ID from system.VandS;

Select Passport_ID,Applicant_ID from system.Passport;

Select Applicant_ID from system.PassportPending;

Select Applicant_ID from system.PassportReject;