

```
-- add information for an employee

-- before add

select e.ssn

from employee e;

-- first add a person

START TRANSACTION;

INSERT INTO Person

(Id,FirstName,LastName,Address,City,State,ZipCode)

values

(100000003,'Zijun','He','23 willams blvd','Lake Grove','New York',11755);

-- then add this person to employee

INSERT INTO Employee

(Id,SSN,IsManager,StartDate,HourlyRate)

values

(100000003,123456789,false,'2000-09-14',100.00);

COMMIT;

-- after add

select e.ssn

from employee e;

-- edit information(hourlyrate) for an employee

START TRANSACTION;

UPDATE Employee

SET HourlyRate = 50.00

WHERE SSN = 123456789;

COMMIT;

select e.ssn,e.hourlyrate,e.IsManager

from employee e;

-- edit information(ismanager) for an employee
```

```
START TRANSACTION;

UPDATE Employee

SET IsManager = true

WHERE SSN = 123456789;

COMMIT;

-- before delete

select e.ssn

from employee e;

-- delete information for an employee

START TRANSACTION;

DELETE FROM person

WHERE id = 100000003;

COMMIT;

-- after delete

select e.ssn

from employee e;

-- obtain a sales report for 2011 January

START TRANSACTION;

SELECT R.ResrNo, R.TotalFare

FROM Reservation R

WHERE R.ResrDate >= '2011-01-01 00:00:00' AND R.ResrDate < '2011-02-01 00:00:00';

COMMIT;


-- produce a comprehensive listing of all flights

START TRANSACTION;

SELECT F.AirlineID,F.FlightNo,F.NoOfSeats,F.DaysOperating,F.MinLengthOfStay,F.MaxLengthOfStay

FROM flight F;

COMMIT;
```

-- Produce a list of reservations by flight number AA111

START TRANSACTION;

SELECT distinct R.ResrNo,R.ResrDate,R.BookingFee,R.TotalFare,R.RepSSN,R.AccountNo

FROM Reservation R, Includes I

WHERE I.ResrNo = R.ResrNo AND I.FlightNo = 111 AND I.AirlineID = 'AA';

COMMIT;

-- Produce a list of reservations by customer name Jane Smith

START TRANSACTION;

SELECT R.ResrNo,R.ResrDate,R.BookingFee,R.TotalFare,R.RepSSN,R.AccountNo

FROM Reservation R, Customer C, Person P

WHERE C.AccountNo = R.AccountNo AND C.Id = P.Id AND P.FirstName = 'Jane' AND P.LastName = 'Smith';

COMMIT;

-- Produce a summary listing of revenue generated by a particular flight AA111

START TRANSACTION;

SELECT distinct R.ResrNo,R.TotalFare

FROM Reservation R,Includes I, Leg L

WHERE R.ResrNo = I.ResrNo AND I.AirlineID = L.AirlineID AND I.FlightNo = L.FlightNo AND I.LegNo = L.LegNo AND L.FlightNo = 111 AND L.AirlineID = 'AA';

COMMIT;

-- Produce a summary listing of revenue generated by a destination city Los Angeles

START TRANSACTION;

SELECT distinct R.ResrNo,R.TotalFare

FROM Reservation R,Includes I, Leg L, Airport A

WHERE R.ResrNo = I.ResrNo AND I.AirlineID = L.AirlineID AND I.FlightNo = L.FlightNo AND I.LegNo = L.LegNo AND L.ArrAirportID = A.Id AND A.City = 'Los Angeles';

COMMIT;

-- Produce a summary listing of revenue generated by a customer Jane Smith

START TRANSACTION;

SELECT distinct R.ResrNo,R.TotalFare

FROM Reservation R, Customer C, Person P

WHERE C.AccountNo = R.AccountNo AND C.Id = P.Id AND P.FirstName = 'Jane' AND P.LastName = 'Smith';

COMMIT;

-- Determine which customer representative generated most total revenue

START TRANSACTION;

create view eRevenue(Id,FirstName,LastName,SumRevenue) as

SELECT E.Id, P.FirstName, P.LastName, SUM(R.TotalFare)

FROM Reservation R, Employee E, Person P

WHERE R.RepSSN = E.SSN AND E.Id = P.Id

GROUP BY concat(E.Id,'-', FirstName,'-', LastName);

select er.Id, er.FirstName, er.LastName, max(er.SumRevenue)

From eRevenue er;

COMMIT;

-- Determine which customer generated most total revenue

START TRANSACTION;

create view cRevenue(Id,FirstName,LastName,SumRevenue) as

SELECT C.Id, P.FirstName, P.LastName, SUM(R.TotalFare)

FROM Reservation R, Customer C, Person P

WHERE C.AccountNo = R.AccountNo AND C.Id = P.Id

GROUP BY concat(C.Id,'-', FirstName,'-', LastName);

select cr.Id, cr.FirstName, cr.LastName, max(cr.SumRevenue)

From cRevenue cr;

```
COMMIT;
```

```
-- Produce a list of most active flights
```

```
START TRANSACTION;
```

```
create view flightActive (airlineId,flightNo,active) as
```

```
SELECT f.AirlineID,f.FlightNo,  
SUBSTR(f.DaysOperating,1,1)+SUBSTR(f.DaysOperating,2,1)+SUBSTR(f.DaysOperating,3,1)+SUBSTR(f.DaysOperating,4,1)+
```

```
SUBSTR(f.DaysOperating,5,1)+SUBSTR(f.DaysOperating,6,1)+SUBSTR(f.DaysOperating,7,1)
```

```
FROM Flight f;
```

```
select fa.airlineid,fa.flightNo,fa.active
```

```
from flightActive fa
```

```
order by active desc;
```

```
commit;
```

```
-- Produce a list of all customers who have seats reserved on a given flight AA111
```

```
START TRANSACTION;
```

```
SELECT distinct C.Id, P.FirstName, P.LastName
```

```
FROM ReservationPassenger RP,Reservation R, Customer C, Person P, Includes I
```

```
WHERE RP.ResrNo = R.ResrNo AND C.AccountNo = R.AccountNo AND C.Id = P.Id AND I.ResrNo =  
R.ResrNo AND I.FlightNo = 111 AND I.AirlineID = 'AA';
```

```
COMMIT;
```

```
-- Produce a list of all flights for a given airport JFK
```

```
START TRANSACTION;
```

```
SELECT distinct concat(L.AirlineID,'-',L.FlightNo)
```

```
FROM Leg L,Includes I
```

```
WHERE I.AirlineID = L.AirlineID AND I.FlightNo = L.FlightNo AND I.LegNo = L.LegNo AND (L.DepAirportID  
= 'JFK' OR L.ArrAirportID = 'JFK') ;
```

```
commit;
```

-- Produce a list of all flights whose arrival and departure times are on-time/delayed

START TRANSACTION;

select f.airlineid,f.flightNo

from flight f

where f.ontime=true;

commit;

-- 3.2 --

-- Record A reservation, for example ResrNo = 444

-- before add

Select r.ResrNo,r.ResrDate,r.BookingFee,r.TotalFare,r.RepSSN,r.AccountNo

From Reservation r;

START TRANSACTION;

INSERT INTO Reservation

(ResrNo,ResrDate,BookingFee,TotalFare,RepSSN,AccountNo)

values

(444,'2011-01-01 11:00:00',400.00,4000.00,2000000000,1000000000);

INSERT INTO Includes

(ResrNo,AirlineID,FlightNo,LegNo,Date)

values

(444,'AA',111,1,'2011-01-05');

INSERT INTO ReservationPassenger

(ResrNo,id,AccountNo,seatNo,Class,Meal)

values

(444,1000000000,1000000000,'65A ','economy','Chips');

COMMIT;

-- output

```
Select r.ResrNo,r.ResrDate,r.BookingFee,r.TotalFare,r.RepSSN,r.AccountNo
From Reservation r;
```

```
-- Add, Edit and Delete information for a customer
```

```
-- 1.Add
```

```
-- before add
```

```
Select c.Id, c.AccountNo,c.CreditCardNo,c.Phone,c.Email,c.CreationDate,c.Rating
From Customer c;
```

```
-- add a new Customer
```

```
START TRANSACTION;
```

```
INSERT INTO Person
```

```
(Id,FirstName,LastName,Address,City,State,ZipCode)
```

```
values
```

```
(1000000004,'Nan','Jiang','400 Nicolls Rd','Stony Brook','New York',11790);
```

```
INSERT INTO Customer
```

```
(Id,AccountNo,CreditCardNo,Phone,Email,CreationDate,Rating)
```

```
values
```

```
(1000000004,1000000004,'5105104155105100','762-555-8767','nan.jiang@google.com','2007-01-05
19:00:00',5);
```

```
COMMIT;
```

```
-- output
```

```
Select c.Id, c.AccountNo,c.CreditCardNo,c.Phone,c.Email,c.CreationDate,c.Rating
From Customer c;
```

```
-- 2.Edit
```

```
-- before edit
```

```
Select c.id,c.Phone
```

```
From Customer c
```

```

Where c.Id = 100000000;

    -- edit customer id = 100000000's phone number from '555-555-5555' to '555-555-6875'

START TRANSACTION;

Update Customer

Set Phone = '555-555-6875'

Where Id = 100000000;

COMMIT;

    -- output

Select c.Id,c.Phone

From Customer c

Where c.Id = 100000000;

    -- 3.Delete

    -- before delete

Select c.Id

From Customer c;

    -- delete a given customer, here we delete Rick Astley (Id = 1000000002)

START TRANSACTION;

DELETE FROM person

Where Id = 1000000004;

COMMIT;

    -- OUTPUT

Select c.Id

From Customer c;


-- Produce customer mailing lists: LIST ALL CUSTOMER NAME AND ADDRESS

START TRANSACTION;

Select p.FirstName, p.LastName, p.Address, p.City, p.State, p.ZipCode

From Customer c, Person p

```


Where c.Id = p.Id;

COMMIT;

-- Produce a list of flight suggestions for a given customer (based on that customer's past reservations)

-- i.e for Rick Astley(100000002). we generate the list based on

-- the frequency the customer took that flight

START TRANSACTION;

select i.airlineId, i.flightno, count(distinct i.ResrNo) as frequency

from includes i, reservation r

where r.AccountNo=100000002 and r.ResrNo=i.ResrNo

group by concat(AirlineID,'-',FlightNo)

order by frequency desc;

COMMIT;

-- One-Way Round-Trip Multi-City Domestic or International Flexible Date/time

-- NOTE: the prof replied on piazza that the logic is on application level, here we just provide some necessary sql code to select a specified flight.

-- Here we just use flight from John F. Kennedy International to Ivato International as an example

START TRANSACTION;

select l.airlineId, l.flightno

from leg l

where l.DepAirportID='JFK' and l.ArrAirportID='TNR';

COMMIT;

-- before delete

select r.ResrNo

from reservation r;

-- cancel an existing reservation, here we cancel John Doe's reservation 111.

START TRANSACTION;

```
DELETE FROM reservation
```

```
WHERE ResrNo = 444;
```

```
COMMIT;
```

```
-- output
```

```
select r.ResrNo
```

```
from reservation r;
```

```
-- retrieve a customer's current reservations, here we use Jane Smith(accountNum=100000000) as an example.
```

```
START TRANSACTION;
```

```
select r.ResrNo
```

```
From reservation r,includes i
```

```
WHERE r.AccountNo=100000000 and r.ResrNo=i.ResrNo and i.Date>='2011-01-04' ;-- assume today is 2011-01-04
```

```
COMMIT;
```

```
-- Travel itinerary for a given reservation, i.e, reservation 111.
```

```
START TRANSACTION;
```

```
select i.airlineId,i.flightno,i.legno,i.DepAirportID,i.DepTime,i.ArrAirportID,i.ArrTime
```

```
From includes i,leg i
```

```
WHERE i.ResrNo=111 AND i.AirlineID=i.AirlineID and i.FlightNo=i.FlightNo and i.legno=i.legno;
```

```
COMMIT;
```

```
COMMIT;
```

```
-- A customer's current bid on a given reverse auction. i.e, John Doe's bid on flight AA111
```

```
START TRANSACTION;
```

```
select a.NYOP
```

```
From auctions a
```

```
WHERE a.AccountNo=100000001 and a.AirlineID='AA' and a.FlightNo=111 and a.Class='economy'
```

and a.Date> '2011-01-04 11:00:00' ;-- assume now is 2011-01-04 11:00:00;

COMMIT;

-- The bid history for a given reverse auction. i.e, bid history on flight AA111

START TRANSACTION;

select a.AccountNo, a.NYOP

From auctions a

WHERE a.AirlineID='AA' and a.FlightNo=111 and a.Class='economy' and a.Date='2011-01-05 11:00:00';

COMMIT;

-- A history of all current and past reservations a customer has made, i.e, Jane Smith(accountNum=100000000).

START TRANSACTION;

select r.ResrNo

From reservation r

WHERE r.AccountNo=100000000;

COMMIT;

-- Best-Seller list of flights

START TRANSACTION;

select i.airlineId, i.flightno, count(distinct i.ResrNo) as popularity

from includes i

group by concat(AirlineID,'-',FlightNo)

order by popularity desc;

COMMIT;

-- Personalized flight suggestion list, i.e for Rick Astley(100000002). we generate the list based on

-- the frequency the customer took that flight

START TRANSACTION;

```
select i.airlineId, i.flightno, count(distinct i.ResrNo) as frequency
from includes i, reservation r
where r.AccountNo=100000002 and r.ResrNo=i.ResrNo
group by concat(AirlineID,'-',FlightNo)
order by frequency desc;
COMMIT;
```