Rahul Rathod
SUID: 303187206

10/27/2018

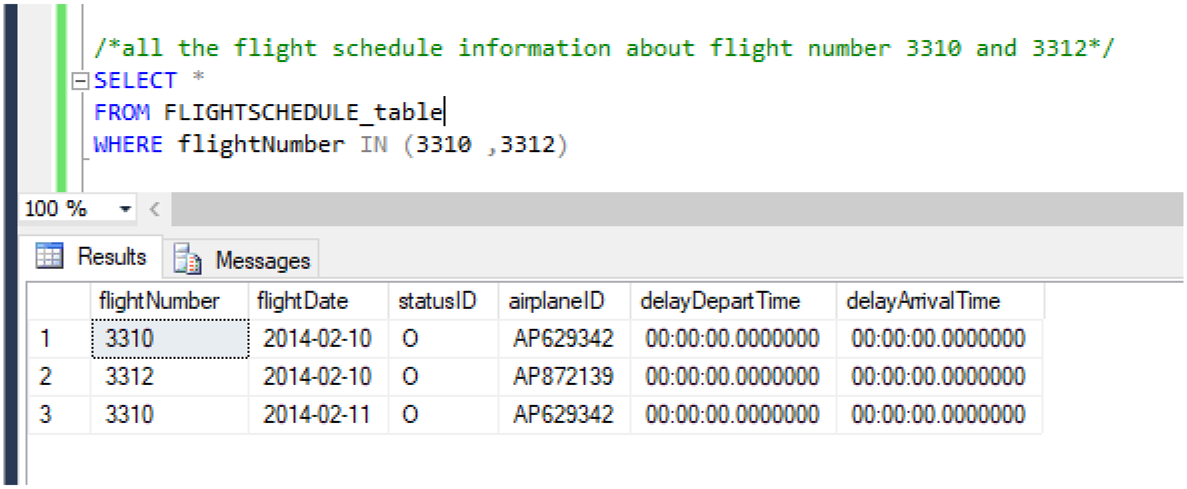
IST 659 LAB Assignment NO -6

a) Find out all flight schedule information of flight “3310” and “3312”. Make sure to show all the fields.

Query:

```
/*all the flight schedule information about flight number 3310 and 3312*/
SELECT *
FROM FLIGHTSCHEDULE_table
WHERE flightNumber IN (3310 ,3312)
```

Result:



```
/*all the flight schedule information about flight number 3310 and 3312*/
SELECT *
FROM FLIGHTSCHEDULE_table
WHERE flightNumber IN (3310 ,3312)
```

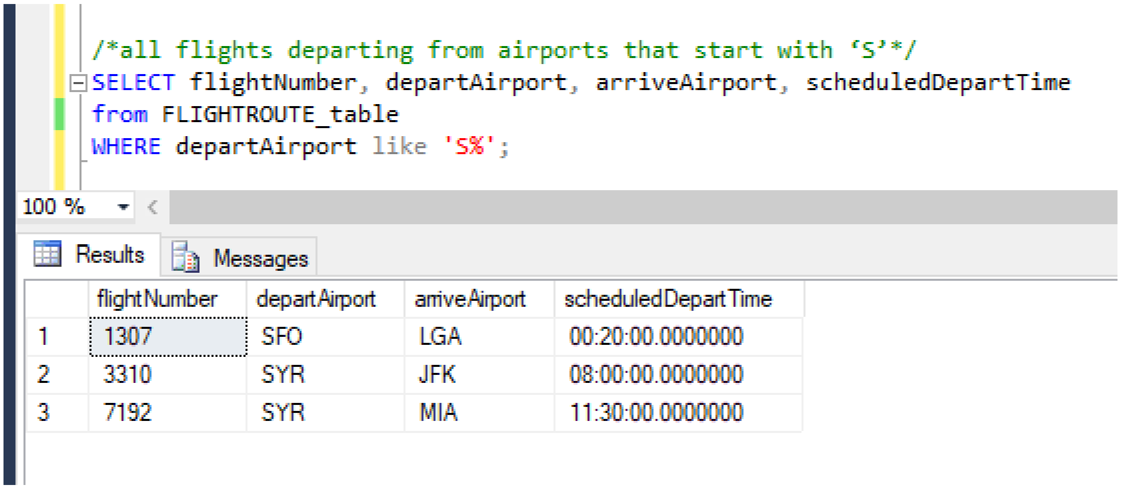
	flightNumber	flightDate	statusID	airplaneID	delayDepartTime	delayArrivalTime
1	3310	2014-02-10	O	AP629342	00:00:00.0000000	00:00:00.0000000
2	3312	2014-02-10	O	AP872139	00:00:00.0000000	00:00:00.0000000
3	3310	2014-02-11	O	AP629342	00:00:00.0000000	00:00:00.0000000

b) Find all flights departing from airports that start with ‘S’. Show flight number, depart airport, arrival airport, and depart time.

Query:

```
/*all flights departing from airports that start with ‘S’*/
SELECT flightNumber, departAirport, arriveAirport, scheduledDepartTime
from FLIGHTROUTE_table
WHERE departAirport like 'S%';
```

Result:



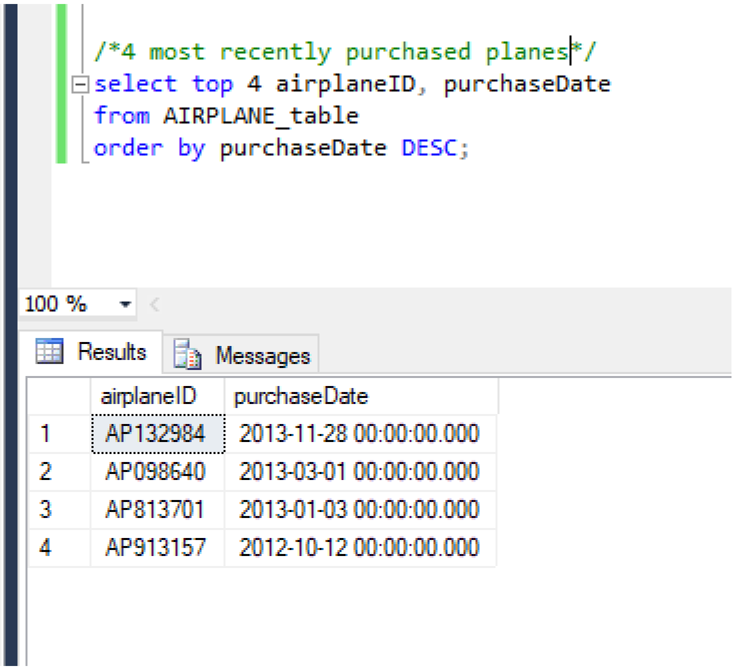
```
/*all flights departing from airports that start with 'S'*/
SELECT flightNumber, departAirport, arriveAirport, scheduledDepartTime
from FLIGHTROUTE_table
WHERE departAirport like 'S%';
```

	flightNumber	departAirport	arriveAirport	scheduledDepartTime
1	1307	SFO	LGA	00:20:00.0000000
2	3310	SYR	JFK	08:00:00.0000000
3	7192	SYR	MIA	11:30:00.0000000

c) Find 4 most recently purchased planes. Show airplane ID and purchase date only.
Query:

```
/*4 most recently purchased planes*/
select top 4 airplaneID, purchaseDate
from AIRPLANE_table
order by purchaseDate DESC;
```

Result:



```
/*4 most recently purchased planes*/
select top 4 airplaneID, purchaseDate
from AIRPLANE_table
order by purchaseDate DESC;
```

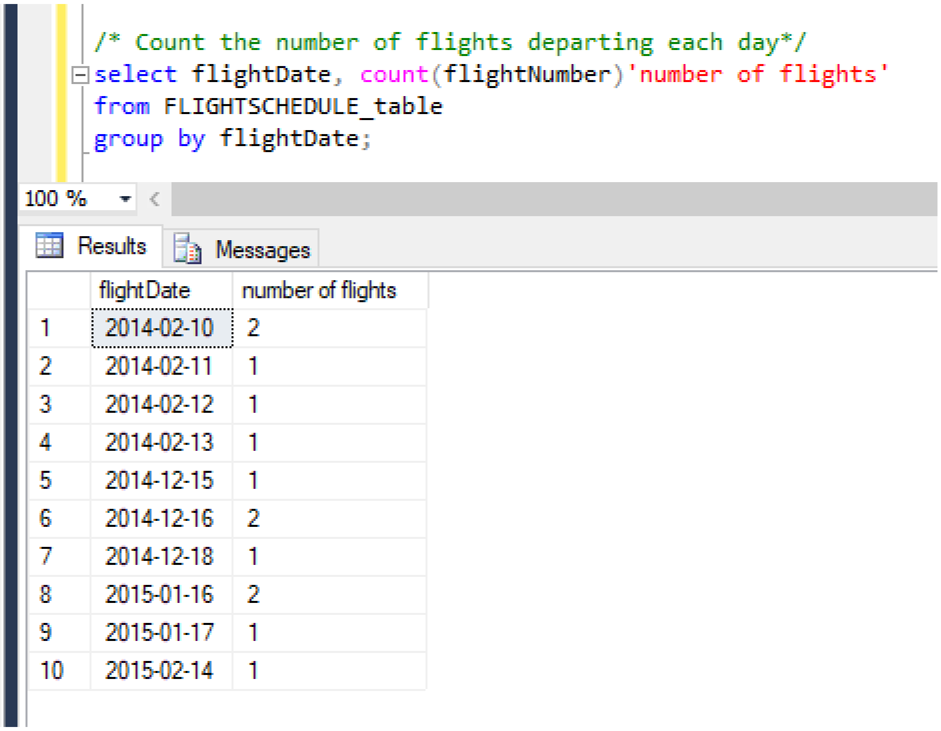
	airplaneID	purchaseDate
1	AP132984	2013-11-28 00:00:00.000
2	AP098640	2013-03-01 00:00:00.000
3	AP813701	2013-01-03 00:00:00.000
4	AP913157	2012-10-12 00:00:00.000

d) Count the number of flights departing each day. Show the date and the number of flights.

Query:

```
/* Count the number of flights departing each day*/
select flightDate, count(flightNumber)'number of flights'
from FLIGHTSCHEDULE_table
group by flightDate;
```

Result:



```
/* Count the number of flights departing each day*/
select flightDate, count(flightNumber)'number of flights'
from FLIGHTSCHEDULE_table
group by flightDate;
```

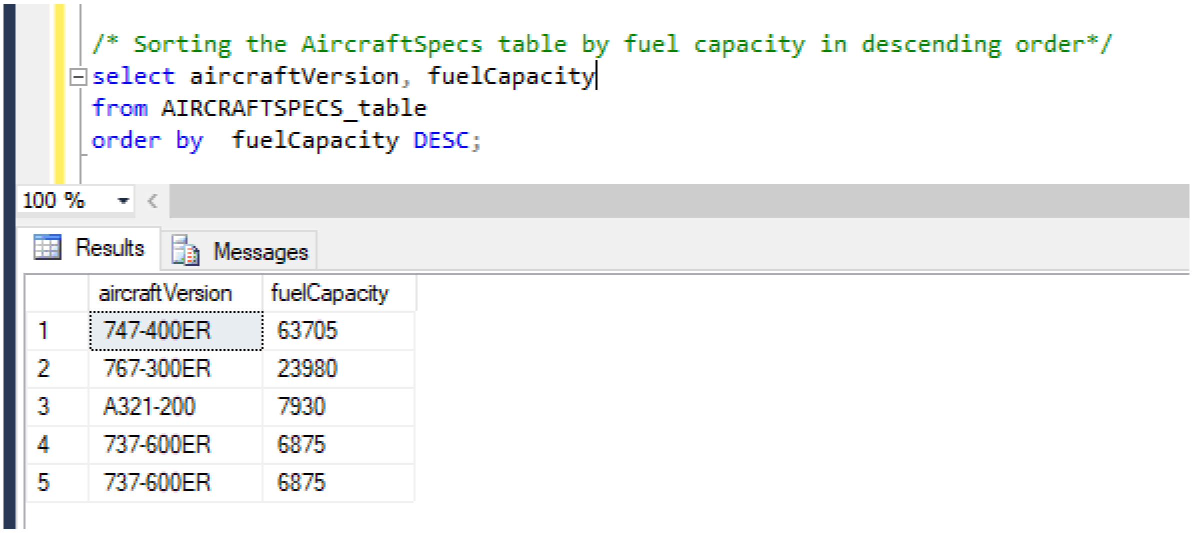
	flightDate	number of flights
1	2014-02-10	2
2	2014-02-11	1
3	2014-02-12	1
4	2014-02-13	1
5	2014-12-15	1
6	2014-12-16	2
7	2014-12-18	1
8	2015-01-16	2
9	2015-01-17	1
10	2015-02-14	1

e) Sort the AircraftSpecs table by fuel capacity in descending order. Show the result with aircraft version and fuel capacity.

Query:

```
/* Sorting the AircraftSpecs table by fuel capacity in descending order*/
select aircraftVersion, fuelCapacity
from AIRCRAFTSPECS_table
order by  fuelCapacity DESC;
```

Result:



```
/* Sorting the AircraftSpecs table by fuel capacity in descending order*/
select aircraftVersion, fuelCapacity
from AIRCRAFTSPECS_table
order by  fuelCapacity DESC;
```

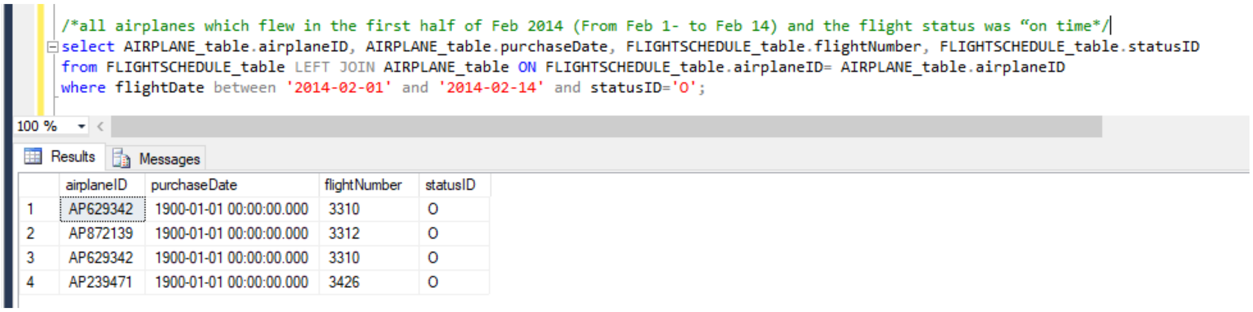
	aircraftVersion	fuelCapacity
1	747-400ER	63705
2	767-300ER	23980
3	A321-200	7930
4	737-600ER	6875
5	737-600ER	6875

f) Find all airplanes which flew in the first half of Feb 2014 (From Feb 1- to Feb 14) and the flight status was “on time”. Show airplane ID, purchase date, flight number, and status ID.

Query:

```
/*all airplanes which flew in the first half of Feb 2014 (From Feb 1- to Feb 14) and the flight status was “on time*/
Select AIRPLANE_table.airplaneID, AIRPLANE_table.purchaseDate, FLIGHTSCHEDULE_table.flightNumber, FLIGHTSCHEDULE_table.statusID
from FLIGHTSCHEDULE_table LEFT JOIN AIRPLANE_table ON FLIGHTSCHEDULE_table.airplaneID= AIRPLANE_table.airplaneID
where flightDate between '2014-02-01' and '2014-02-14' and statusID='O';
```

Result:



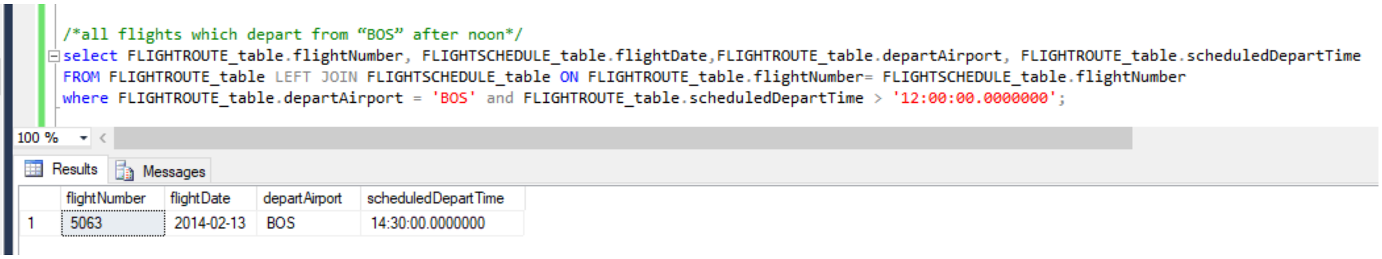
```
/*all airplanes which flew in the first half of Feb 2014 (From Feb 1- to Feb 14) and the flight status was “on time*/
select AIRPLANE_table.airplaneID, AIRPLANE_table.purchaseDate, FLIGHTSCHEDULE_table.flightNumber, FLIGHTSCHEDULE_table.statusID
from FLIGHTSCHEDULE_table LEFT JOIN AIRPLANE_table ON FLIGHTSCHEDULE_table.airplaneID= AIRPLANE_table.airplaneID
where flightDate between '2014-02-01' and '2014-02-14' and statusID='O';
```

	airplaneID	purchaseDate	flightNumber	statusID
1	AP629342	1900-01-01 00:00:00.000	3310	O
2	AP872139	1900-01-01 00:00:00.000	3312	O
3	AP629342	1900-01-01 00:00:00.000	3310	O
4	AP239471	1900-01-01 00:00:00.000	3426	O

g) Find all flights which depart from “BOS” after noon. Show flight number, flight date, depart airport and scheduled depart time.
Query:

```
/*all flights which depart from “BOS” after noon*/
select FLIGHTROUTE_table.flightNumber,
FLIGHTSCHEDULE_table.flightDate,FLIGHTROUTE_table.departAirport,
FLIGHTROUTE_table.scheduledDepartTime
FROM FLIGHTROUTE_table LEFT JOIN FLIGHTSCHEDULE_table ON
FLIGHTROUTE_table.flightNumber= FLIGHTSCHEDULE_table.flightNumber
where FLIGHTROUTE_table.departAirport = 'BOS' and
FLIGHTROUTE_table.scheduledDepartTime > '12:00:00.0000000';
```

Result:



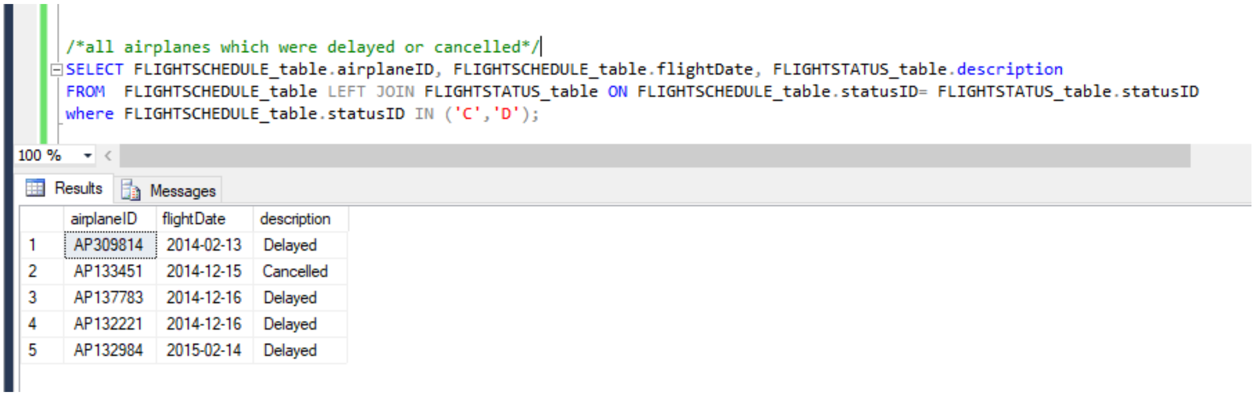
```
/*all flights which depart from “BOS” after noon*/
select FLIGHTROUTE_table.flightNumber, FLIGHTSCHEDULE_table.flightDate,FLIGHTROUTE_table.departAirport, FLIGHTROUTE_table.scheduledDepartTime
FROM FLIGHTROUTE_table LEFT JOIN FLIGHTSCHEDULE_table ON FLIGHTROUTE_table.flightNumber= FLIGHTSCHEDULE_table.flightNumber
where FLIGHTROUTE_table.departAirport = 'BOS' and FLIGHTROUTE_table.scheduledDepartTime > '12:00:00.0000000';
```

	flightNumber	flightDate	departAirport	scheduledDepartTime
1	5063	2014-02-13	BOS	14:30:00.0000000

h) Find all airplanes which were delayed or cancelled. Show only airplane ID, flight date and status description.
Query:

```
/*all airplanes which were delayed or cancelled*/
SELECT FLIGHTSCHEDULE_table.airplaneID, FLIGHTSCHEDULE_table.flightDate,
FLIGHTSTATUS_table.description
FROM FLIGHTSCHEDULE_table LEFT JOIN FLIGHTSTATUS_table ON
FLIGHTSCHEDULE_table.statusID= FLIGHTSTATUS_table.statusID
where FLIGHTSCHEDULE_table.statusID IN ('C','D');
```

Result:



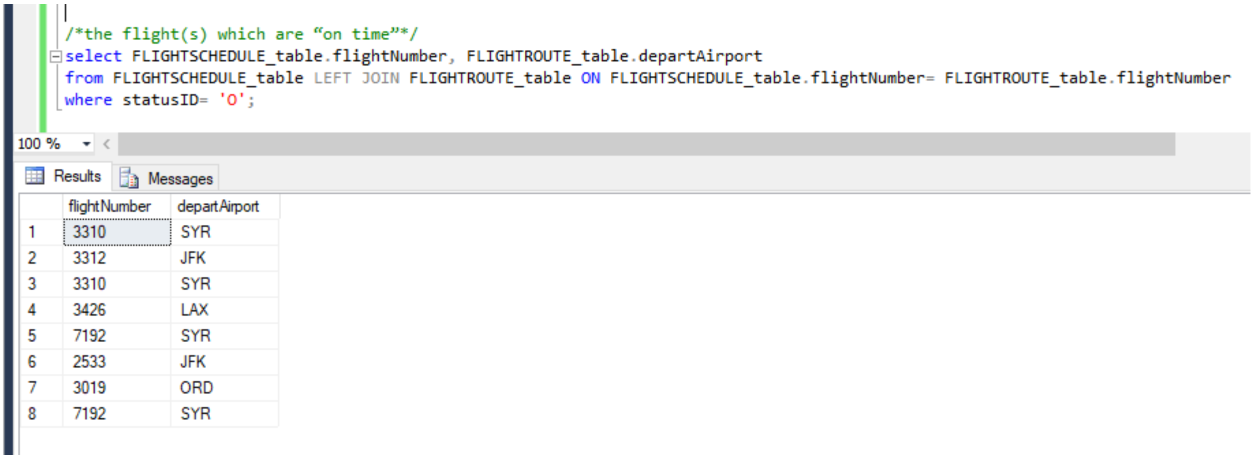
```
/*all airplanes which were delayed or cancelled*/
SELECT FLIGHTSCHEDULE_table.airplaneID, FLIGHTSCHEDULE_table.flightDate, FLIGHTSTATUS_table.description
FROM  FLIGHTSCHEDULE_table LEFT JOIN FLIGHTSTATUS_table ON FLIGHTSCHEDULE_table.statusID= FLIGHTSTATUS_table.statusID
where FLIGHTSCHEDULE_table.statusID IN ('C','D');
```

	airplaneID	flightDate	description
1	AP309814	2014-02-13	Delayed
2	AP133451	2014-12-15	Cancelled
3	AP137783	2014-12-16	Delayed
4	AP132221	2014-12-16	Delayed
5	AP132984	2015-02-14	Delayed

i) Find the flight(s) which are “on time”, display the Flight number and departure airport
Query:

```
/*the flight(s) which are “on time”*/
select FLIGHTSCHEDULE_table.flightNumber, FLIGHTROUTE_table.departAirport
from FLIGHTSCHEDULE_table LEFT JOIN FLIGHTROUTE_table ON
FLIGHTSCHEDULE_table.flightNumber= FLIGHTROUTE_table.flightNumber
where statusID= 'O';
```

Result:



```
/*the flight(s) which are “on time”*/
select FLIGHTSCHEDULE_table.flightNumber, FLIGHTROUTE_table.departAirport
from FLIGHTSCHEDULE_table LEFT JOIN FLIGHTROUTE_table ON FLIGHTSCHEDULE_table.flightNumber= FLIGHTROUTE_table.flightNumber
where statusID= 'O';
```

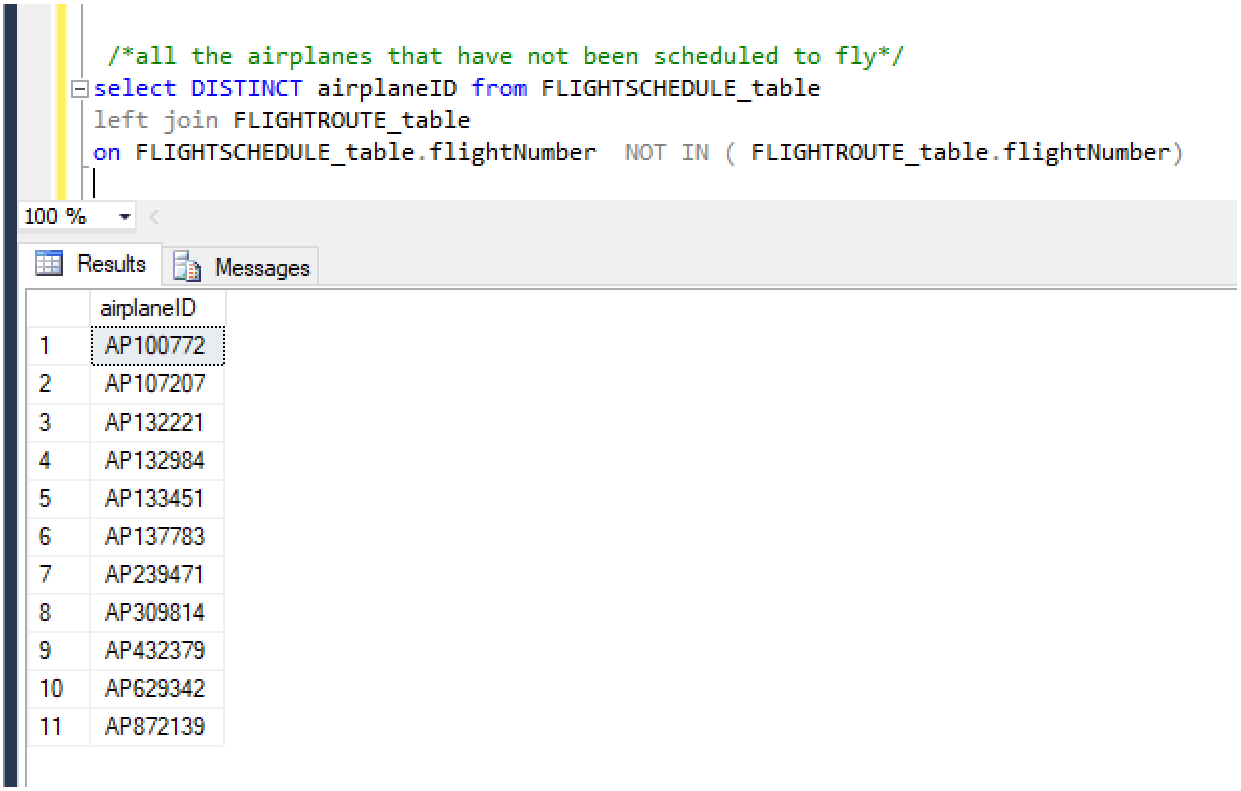
	flightNumber	departAirport
1	3310	SYR
2	3312	JFK
3	3310	SYR
4	3426	LAX
5	7192	SYR
6	2533	JFK
7	3019	ORD
8	7192	SYR

j) Find all the airplanes that have not been scheduled to fly. (You can use Left Join)

Query:

```
/*all the airplanes that have not been scheduled to fly*/
select DISTINCT airplaneID from FLIGHTSCHEDULE_table
left join FLIGHTROUTE_table
on FLIGHTSCHEDULE_table.flightNumber  NOT IN ( FLIGHTROUTE_table.flightNumber)
```

Result:



```
/*all the airplanes that have not been scheduled to fly*/
select DISTINCT airplaneID from FLIGHTSCHEDULE_table
left join FLIGHTROUTE_table
on FLIGHTSCHEDULE_table.flightNumber  NOT IN ( FLIGHTROUTE_table.flightNumber)
```

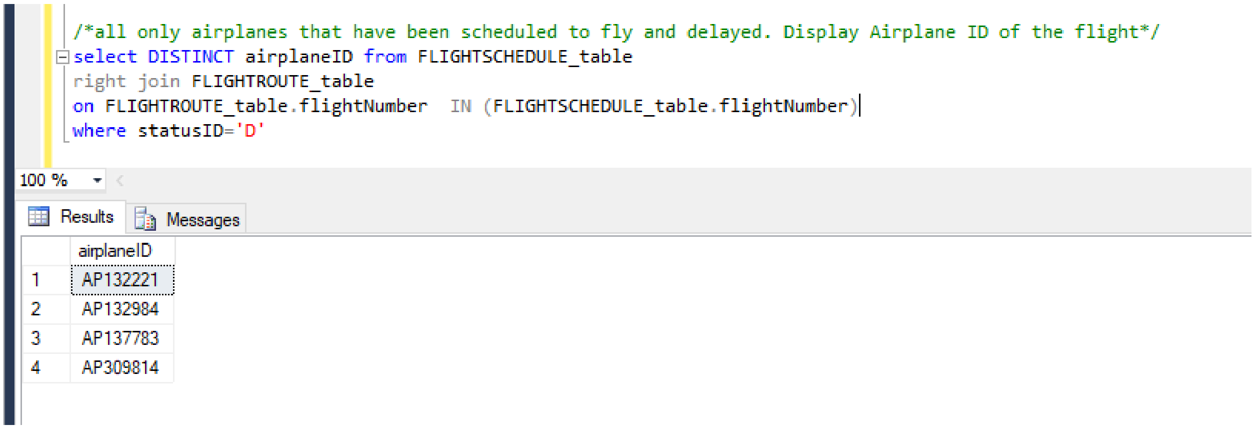
	airplaneID
1	AP100772
2	AP107207
3	AP132221
4	AP132984
5	AP133451
6	AP137783
7	AP239471
8	AP309814
9	AP432379
10	AP629342
11	AP872139

k) Find all only airplanes that have been scheduled to fly and delayed. Display Airplane ID of the flight (Use Right Join)

Query:

```
/*all only airplanes that have been scheduled to fly and delayed. Display Airplane ID of the flight*/
select DISTINCT airplaneID from FLIGHTSCHEDULE_table
right join FLIGHTROUTE_table
on FLIGHTROUTE_table.flightNumber  IN (FLIGHTSCHEDULE_table.flightNumber)
where statusID='D'
```

Result:



```
/*all only airplanes that have been scheduled to fly and delayed. Display Airplane ID of the flight*/
select DISTINCT airplaneID from FLIGHTSCHEDULE_table
right join FLIGHTROUTE_table
on FLIGHTROUTE_table.flightNumber  IN (FLIGHTSCHEDULE_table.flightNumber)
where statusID='D'
```

	airplaneID
1	AP132221
2	AP132984
3	AP137783
4	AP309814