

IST 659: Lab 7

- a) Find all airplanes which did not fly in the first half of March 2014 and the flight status was “on time”. Show airplane ID, purchase date, and flight number.

SQL:

```
SELECT at.airplaneID, purchaseDate, flightNumber
FROM AirplaneTable as at
INNER JOIN FlightScheduleTable as fs ON fs.airplaneID=at.airplaneID
WHERE flightDate NOT BETWEEN '2014-03-01' AND '2014-03-15'
AND fs.statusID='O'
```

Output:

	airplaneID	purchaseDate	flightNumber
1	AP123471	2012-09-22	0436
2	AP123471	2012-09-22	1397
3	AP139783	2012-04-20	1397
4	AP422379	2012-03-22	3019
5	AP629342	1900-01-01	3310
6	AP629342	1900-01-01	3310
7	AP872139	1900-01-01	3312
8	AP239471	1900-01-01	3426
9	AP103752	2012-06-07	7192

- b) Find all flights which depart from “LAX” in the morning. Show flight number, flight date, depart airport and scheduled depart time.

SQL:

```
SELECT fs.flightNumber, fs.flightDate, fr.departAirport,
fr.scheduledDepartTime
FROM FlightScheduleTable fs, FlightRouteTable fr
WHERE CAST (fr.scheduledDepartTime as time) >= '00:00:00'
AND CAST (fr.scheduledDepartTime as time) < '12:00:00'
AND fr.departAirport='LAX'
AND fs.flightNumber=fr.flightNumber
```

Output:

	flightNumber	flightDate	departAirport	scheduledDepartTime
1	3426	2014-02-12	LAX	11:15:00.0000000

- c) Find all airplanes which once delayed or were cancelled. Show only airplane ID, flight date and status description.

SQL:

```
SELECT fs.airplaneID, fs.flightDate, s.description
FROM FlightScheduleTable fs, StatusTable s
WHERE (fs.statusID='D' OR fs.statusID='C') AND fs.statusID=s.statusID
```

Output:

	airplaneID	flightDate	description
1	AP132984	2014-02-14	Delay
2	AP130221	2014-02-16	Delay
3	AP309814	2014-02-13	Delay
4	AP108297	2014-02-18	Canceled

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

SQL:

```
SELECT at.*
FROM AirplaneTable at
LEFT JOIN FlightScheduleTable fs ON at.airplaneID=fs.airplaneID
WHERE fs.airplaneID IS NULL
```

Output:

	airplaneID	aircraftTypeID	purchaseDate
1	AP098640	AIR2	2013-03-01
2	AP240173	BOE3	2012-04-20
3	AP324423	AIR1	2012-02-21
4	AP429421	BOE3	2013-01-13
5	AP461923	BOE1	2012-07-31
6	AP813701	AIR1	2013-01-03
7	AP913857	BOE2	2012-08-12
8	AP998911	BOE2	1900-01-01

- e) Find the flight(s) which are “on time”, display the Flight number and scheduled depart time

SQL:

```
SELECT fs.flightNumber, fr.scheduledDepartTime
FROM FlightScheduleTable fs, FlightRouteTable fr
WHERE fs.statusID='O' AND fs.flightNumber=fr.flightNumber
```

Output:

	flightNumber	scheduledDepartTime
1	0436	10:05:00.0000000
2	1397	00:20:00.0000000
3	1397	00:20:00.0000000
4	3019	14:40:00.0000000
5	3310	08:00:00.0000000
6	3310	08:00:00.0000000
7	3312	12:20:00.0000000
8	3426	11:15:00.0000000
9	7192	11:30:00.0000000

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

SQL:

```
SELECT at.airplaneID
FROM AirplaneTable at
RIGHT JOIN flightScheduleTable fs ON fs.airplaneID= at.airplaneID
WHERE statusID='D' AND at.airplaneID IS NOT NULL
```

Output:

	airplaneID
1	AP132984
2	AP130221
3	AP309814