

- (a) List all the flight numbers by American Airlines.

```

+-----+
| flight_number |
+-----+
| AA201         |
| AA202         |
| AA203         |
+-----+
3 rows in set (0.00 sec)

```

- (b) How many flights does American Airlines offer on Mondays?

```

+-----+
| COUNT(*) |
+-----+
| 1         |
+-----+
1 row in set (0.00 sec)

```

- (c) List the flight numbers and weekdays of all flights or flight legs that depart from George Bush Intercontinental Airport and arrive in Los Angeles International Airport.

```

+-----+-----+
| flight_number | weekdays |
+-----+-----+
| SW1387       | Monday  |
| TWA023       | Thursday|
+-----+-----+
2 rows in set (0.00 sec)

```

- (d) List the flight number, departure airport code, scheduled departure time, arrival airport code, schedule arrival time and weekdays of all flights or flight legs that depart from some airport in the city of Houston and arrive at some airport in the city of Los Angeles.

```

+-----+-----+-----+-----+-----+-----+
| flight_number | DAC | SDT | AAC | SAT | weekdays |
+-----+-----+-----+-----+-----+-----+
| SW1385       | HOU | 0930 | LAX | 1030 | Thursday  |
| SW1387       | IAH | 1330 | LAX | 1630 | Monday    |
| TWA023       | IAH | 0930 | LAX | 1300 | Thursday  |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

- (e) List the airliner who flew with a greater number of empty seats (available seats) than any other airliners during September 2019.

```

+-----+-----+
| airline          | total_empty_seats |
+-----+-----+
| American Airlines | 55                |
+-----+-----+
1 row in set (0.00 sec)

```

- (f) Find the airliners that flew with less than 30 empty seats (available seats) in September 2019.
[Hint: Use HAVING & DATE_FORMAT()]

```

+-----+-----+
| airline          | total_empty_seats |
+-----+-----+
| Trans World Airlines | 6                 |
+-----+-----+
1 row in set (0.00 sec)

```

- (g) Find airline pairs that are directly competing at Houston? Direct competition at a city is defined by having flights from that city to the common destination. Answer should include <TWA, Southwest> since both airlines have flights from Houston to LA. Note that Houston has two airports (Requirement: Use EXISTS/NOT EXISTS).

```

+-----+-----+
| airline | airline |
+-----+-----+
| Trans World Airlines | South West Airline |
+-----+-----+
1 row in set (0.04 sec)

```

- (h) List all the flights from "FLIGHT" table along with their scheduling information from "FLIGHT_LEG" table. Show NULL values for scheduling information if the flight has not been scheduled yet. (Hint: Use Outer Join)

```

+-----+-----+-----+-----+-----+-----+-----+-----+
| airline | weekdays | FN | LN | DAC | SDT | AAC | SAT |
+-----+-----+-----+-----+-----+-----+-----+-----+
| American Airlines | Monday | AA201 | 1 | BDL | 0800 | DTW | 0930 |
| American Airlines | Monday | AA201 | 2 | DTW | 1030 | MSP | 1130 |
| American Airlines | Monday | AA201 | 3 | MSP | 1230 | SFO | 1430 |
| American Airlines | Wednesday | AA202 | 1 | DTW | 0800 | BDL | 0930 |
| American Airlines | Friday | AA203 | 1 | SFO | 1000 | LAX | 1045 |
| American Airlines | Friday | AA203 | 2 | LAX | 1400 | BDL | 2300 |
| South West Airline | Thursday | SW1385 | 1 | HOU | 0930 | LAX | 1030 |
| South West Airline | Sunday | SW1386 | 1 | BDL | 0700 | MCO | 1000 |
| South West Airline | Sunday | SW1386 | 2 | MCO | 1230 | SJU | 1530 |
| South West Airline | Monday | SW1387 | 1 | BDL | 0930 | IAH | 1230 |
| South West Airline | Monday | SW1387 | 2 | IAH | 1330 | PHX | 1430 |
| South West Airline | Monday | SW1387 | 3 | PHX | 1530 | LAX | 1630 |
| Trans World Airlines | Tuesday | TWA021 | NULL | NULL | NULL | NULL | NULL |
| Trans World Airlines | Wednesday | TWA022 | NULL | NULL | NULL | NULL | NULL |
| Trans World Airlines | Thursday | TWA023 | 1 | IAH | 0930 | SAN | 1100 |
| Trans World Airlines | Thursday | TWA023 | 2 | SAN | 1200 | LAX | 1300 |
+-----+-----+-----+-----+-----+-----+-----+-----+
16 rows in set (0.00 sec)

```