1. List all the people in the passenger table, including their name, itinerary number, fare, and confirmation number. Order by name and fare.

   SELECT pas_name, pas_itinerary_no, pas_fare,pas_confirm_no FROM passenger
   ORDER BY pas_name, pas_fare

	PAS_NAME	PAS_ITINERARY_NO	PAS_FARE	PAS_CONFIRM_NO
1	Andy Anderson	9	436	4
2	Andy Anderson	12	560	6
3	David Peterson	5	315	2
4	Gloria Anderson	13	312	6
5	Gloria Anderson	10	436	4
6	Hazel Peterson	4	315	2
7	Lena Olson	2	98	1
8	Ole Olson	1	410	1
9	Olga Swenson	7	315	3
10	Pete Peterson	3	315	2
11	Pete Swenson	8	409	3
12	Swen Swenson	6	345	3
13	Torgie Torgenson	11	578.5	5

2. Using an “OR” operator, list pilot name, state, zip code, and flight pay for pilots who make more than $2,500 per flight and live in either the state TX or AZ. Order by pay in descending order.

   SELECT pil_pilotname,pil_state,pil_city,pil_zip,pil_flight_pay FROM pilots
   WHERE pil_flight_pay > 2500 AND (pil_state = 'TX' OR pil_state = 'AZ')
   ORDER BY pil_flight_pay DESC

	PIL_PILOTNAME	PIL_STATE	PIL_CITY	PIL_ZIP	PIL_FLIGHT_PAY
1	Gladchuk, Chet	TX	HOUSTON	77024	3150
2	Harris, Kenneth C.	TX	HOUSTON	77004	3150
3	Long, Stuart	TX	DALLAS	75090	3000
4	Green, Edward L.	AZ	FLAGSTAFF	85120	2640
5	Tabor, Victor T.	AZ	FLAGSTAFF	85120	2640
6	Leiss, Ernst L.	AZ	FLAGSTAFF	85120	2640

3. Using an “IN”, list pilot names, zip and flight pay for pilots who make more than $2,500 per flight and live in either the state TX or AZ. Order by pay in descending order.

```
SELECT Pil_Pilotname, pil_state, pil_city, pil_zip, pil_flight_pay FROM pilots
WHERE Pil_flight_pay > 2500 AND pil_state IN  ('TX','AZ')
ORDER BY Pil_flight_pay DESC
```

	PIL_PILOTNAME	PIL_STATE	PIL_CITY	PIL_ZIP	PIL_FLIGHT_PAY
1	Gladchuk, Chet	TX	HOUSTON	77024	3150
2	Harris, Kenneth C.	TX	HOUSTON	77004	3150
3	Long, Stuart	TX	DALLAS	75090	3000
4	Green, Edward L.	AZ	FLAGSTAFF	85120	2640
5	Tabor, Victor T.	AZ	FLAGSTAFF	85120	2640
6	Leiss, Ernst L.	AZ	FLAGSTAFF	85120	2640

4. Using a SET OPERATOR, list pilot names, zip and flight pay for pilots who make more than $2,500 per flight and live in either the state TX or AZ. Order by pay in descending order.

```
SELECT Pil_Pilotname, pil_state, pil_city, pil_zip, pil_flight_pay FROM pilots WHERE
Pil_flight_pay > 2500
INTERSECT
SELECT Pil_Pilotname, pil_state, pil_city, pil_zip, pil_flight_pay FROM pilots WHERE
pil_state IN  ('TX','AZ')
ORDER BY Pil_flight_pay DESC
```

	PIL_PILOTNAME	PIL_STATE	PIL_CITY	PIL_ZIP	PIL_FLIGHT_PAY
1	Gladchuk, Chet	TX	HOUSTON	77024	3150
2	Harris, Kenneth C.	TX	HOUSTON	77004	3150
3	Long, Stuart	TX	DALLAS	75090	3000
4	Green, Edward L.	AZ	FLAGSTAFF	85120	2640
5	Tabor, Victor T.	AZ	FLAGSTAFF	85120	2640
6	Leiss, Ernst L.	AZ	FLAGSTAFF	85120	2640

5. Using an “AND” and an “OR”, list all information (Equipment Number, Equipment Type, Seat Capacity, Fuel Capacity, and Miles per Gallon) on aircraft that have a seat capacity greater than 300, or aircraft that have a miles per gallon greater than 3.5 miles per gallon and fuel capacity less than 2500. Order by EQ_EQUIP_No.

```
SELECT * FROM equip_type
WHERE eq_seat_capacity > 300 OR
(EQ_Miles_Per_Gal > 3.5 AND EQ_Fuel_Capacity < 2500)
```

ORDER BY Eq_Equip_No

	EQ_EQUIP_NO	EQ_EQUIP_TYPE	EQ_SEAT_CAPACITY	EQ_FUEL_CAPACITY	EQ_MILES_PER_GAL
1	1194	DC 7	282	2340	3.8
2	1253	BOE 747	480	2800	3.6
3	1345	BOE 737	270	2150	4.1
4	1346	BOE 737	270	2150	4.1
5	1347	BOE 737	270	2150	4.1
6	1368	DC 7	282	2340	3.8
7	1489	CONCORDE	350	2750	3.1

6. Using a SET OPERATION, list all information (Equipment Number, Equipment Type, Seat Capacity, Fuel Capacity, and Miles per Gallon) on aircraft that have a seat capacity greater than 300, or aircraft that have a miles per gallon greater than 3.5 miles per gallon and fuel capacity less than 2500. Order by EQ_EQUIP_No.

   SELECT * FROM equip_type WHERE eq_seat_capacity > 300
   UNION
   SELECT * FROM equip_type WHERE EQ_Miles_Per_Gal > 3.5 AND EQ_Fuel_Capacity < 2500

	EQ_EQUIP_NO	EQ_EQUIP_TYPE	EQ_SEAT_CAPACITY	EQ_FUEL_CAPACITY	EQ_MILES_PER_GAL
1	1194	DC 7	282	2340	3.8
2	1253	BOE 747	480	2800	3.6
3	1345	BOE 737	270	2150	4.1
4	1346	BOE 737	270	2150	4.1
5	1347	BOE 737	270	2150	4.1
6	1368	DC 7	282	2340	3.8
7	1489	CONCORDE	350	2750	3.1

7. Using PATTERN MATCHING on the AIR_LOCATION attribute, select all information for airports in TX.

   SELECT * FROM airport
   WHERE Air_location LIKE '%TX'

	AIR_CODE	AIR_LOCATION	AIR_ELEVATION	AIR_PHONE	AIR_HUB_AIRLINE
1	IAH	Houston, TX	5	2816642000	Continental
2	DFW	Dallas, TX	210	2146218044	American

8. Using an aggregate function and HAVING, produce a unique list of pilot Id's as "Pilot ID" of pilots who piloted more than 20 departures. Order by pilot id ascending.

   SELECT Dep_pilot_id AS Pilot_Id, count(Dep_pilot_id) AS Flights FROM Departures
   GROUP BY Dep_pilot_id HAVING count(Dep_pilot_id) > 20
   ORDER BY Pilot_Id ASC

	DEP_PILOT_ID	FLIGHTS
1	CG	38
2	KCH	47
3	SL	49
4	WRP	44

9. List all flights showing flight number, flight fare, flight distance, and the miles flown per dollar (distance/fare) as “Miles Flown Per Dollar” that have miles per dollar greater than $5.50, and sort by miles flown per dollar ascending.

   SELECT FL_Flight_No AS "Flight Number", Fl_fare AS "Fare", Fl_Distance AS "Distance",
   ROUND(Fl_Distance / Fl_fare,2) AS "Miles Flown Per Dollar" FROM flight
   WHERE ROUND(Fl_Distance / Fl_fare,2) > 5.50
   GROUP BY FL_flight_No, Fl_fare, Fl_Distance
   ORDER BY "Miles Flown Per Dollar" ASC

	Flight Number	Fare	Distance	Miles Flown Per Dollar
1	198	69	400	5.8
2	102	156	1000	6.41
3	103	156	1000	6.41
4	600	109	750	6.88
5	518	109	750	6.88
6	691	109	750	6.88
7	606	109	750	6.88
8	604	109	750	6.88
9	1260	109	750	6.88
10	15	49	400	8.16
11	400	49	400	8.16
12	40	49	400	8.16
13	329	49	400	8.16
14	298	39	400	10.26

10. Display airport location and number of departing flights as "Number of departing Flights".

```
SELECT Air_location, count(fl_orig) AS "Number of departing Flights" FROM flight JOIN
airport ON flight.fl_orig = airport.air_code
GROUP BY air_location
```

	AIR_LOCATION	Number of Departing Flights
1	Minneapolis, MN	1
2	Los Angeles, CA	3
3	Dallas, TX	1
4	Houston, TX	3
5	New York, NY	1
6	Phoenix, AZ	9
7	San Francisco, CA	4
8	Detroit, MI	1
9	Flagstaff, AZ	1

11. List the maximum pay, minimum pay and average flight pay by state for pilots. Make sure to name the attributes as shown in the example output.

```
SELECT pil_state AS "State", MAX(pil_flight_pay) AS "Max Pay", MIN(pil_flight_pay) AS "Min
Pay", AVG(pil_flight_pay) AS "Avg Pay"  FROM pilots
GROUP BY pil_state
```

	State	Max Pay	Min Pay	Avg Pay
1	CA	3000	560	1780
2	TX	3150	3000	3100
3	AZ	2640	2500	2605

12. Display pilot name and departure date of his first flight. Order by pilot name.

```
SELECT Pil_pilotname, MIN(dep_dep_date) AS "First Departure" FROM pilots JOIN
departures ON pilots.pil_pilot_id = departures.dep_pilot_id
GROUP BY pil_pilotname
ORDER BY pil_pilotname
```

	PIL_PILOTNAME	First Departure
1	Gladchuk, Chet	08-APR-17
2	Green, Edward L.	08-APR-17
3	Harris, Kenneth C.	02-APR-17
4	Leiss, Ernst L.	08-APR-17
5	Long, Stuart	08-APR-17
6	Pasewark, William B.	01-APR-17
7	Scamell, Richard	08-APR-17

13. For each unique equipment type, List the equipment types and maximum miles that can be flown as "Maximum Distance Flown". Order by maximum distance descending.

    SELECT DISTINCT(Eq_equip_type), (Eq_fuel_capacity * Eq_miles_per_gal) AS "Maximum Distance Flown" FROM equip_type
    ORDER BY "Maximum Distance Flown" DESC

	EQ_EQUIP_TYPE	Maximum Distance Flown
1	BOE 747	10080
2	DC 7	8892
3	BOE 737	8815
4	CONCORDE	8525
5	BOE 727	6398.8

14. List the number of flights originating from each airport as NUMBER_OF_FLIGHTS.

    SELECT Fl_orig, COUNT(FL_ORIG) AS NUMBER_OF_FLIGHTS FROM flight
    GROUP BY fl_orig

	FL_ORIG	NUMBER_OF_FLIGHTS
1	MSP	1
2	IAH	3
3	DFW	1
4	DTW	1
5	JFK	1
6	LAX	3
7	FLG	1
8	PHX	9
9	SFO	4

15. List the equipment type and max distance possible on a full tank of fuel for each plane with a maximum distance greater than 8600. Order by maximum distance, from lowest to highest.

```
SELECT DISTINCT(Eq_equip_type), (Eq_fuel_capacity * Eq_miles_per_gal) AS "Maximum
Distance Flown" FROM equip_type
WHERE (Eq_fuel_capacity * Eq_miles_per_gal) > 8600
ORDER BY "Maximum Distance Flown" ASC
```

	EQ_EQUIP_TYPE	Maximum Distance Flown
1	BOE 737	8815
2	DC 7	8892
3	BOE 747	10080