CPSC 6620
Assignment 4

Database Name	Username	Password
Menagerie	charanjit2619	cpsc46206620

Pet table:

name	owner	species	sex	birth	death
Fluffy	Harold	cat	f	1993-02-04	*NULL*
Claws	Gwen	cat	m	1994-03-17	*NULL*
Buffy	Harold	dog	f	1989-05-13	*NULL*
Fang	Benny	dog	m	1990-08-27	*NULL*
Bowser	Diane	dog	m	1979-08-31	1995-07-29
Chirpy	Gwen	bird	f	1998-09-11	*NULL*
Whistler	Gwen	bird	*NULL*	1997-12-09	*NULL*
Slim	Benny	snake	m	1996-04-29	*NULL*
Puffball	Diane	hamster	f	1999-03-30	*NULL*

Event Table:

name	date	type	remark
Fluffy	1995-05-15	litter	4 kittens, 3 female, 1 male
Buffy	1993-06-23	litter	5 puppies, 2 female, 3 male
Buffy	1994-06-19	litter	3 puppies, 3 female
Chirpy	1999-03-21	vet	needed beak straightened
Slim	1997-08-03	vet	broken rib
Bowser	1991-10-12	kennel	*NULL*
Fang	1991-10-12	kennel	*NULL*
Fang	1998-08-28	birthday	Gave him a new chew toy
Claws	1998-03-17	birthday	Gave him a new flea collar
Whistler	1998-12-09	birthday	First birthday

Query 1: List owners who have at least 2 pets and their respective numbers of pets.

```
SELECT owner, COUNT(*) AS pet_no FROM pet GROUP
BY owner HAVING pet_no >= 2;
```

OUTPUT:

owner	pet_no
Benny	2
Diane	2
Gwen	3
Harold	2

Query 2: Write a nested query in at least two ways to retrieve the owners who own a dog but not a cat. You can write a nested queries using the following four ways: using IN/NOT IN or EXIST/NOT EXIST in where condition, nested at the where clause or nested at the FROM list.

```
SELECT owner FROM pet WHERE species = 'dog' AND owner NOT
IN (SELECT owner FROM pet WHERE species = 'cat');
```

OUTPUT:

owner
Benny
Diane

```
SELECT owner FROM pet AS t1 WHERE species = 'dog' AND NOT
EXISTS (SELECT owner FROM pet AS t2 WHERE species = 'cat'
AND t2.owner = t1.owner);
```

OUTPUT:

owner
Benny
Diane

Query 3: Write two queries, one with JOIN and one without JOIN, to List the owner, name, event type, and event date of the pets who had event when they are at least 2 years old.

```
SELECT owner, name, type, date FROM (SELECT  pet.owner,
pet.name, event.type, date, (YEAR(date)-YEAR(birth)) -
(RIGHT(date,5)<RIGHT(birth,5)) AS age FROM pet LEFT JOIN
event on pet.name = event.name) AS t WHERE age >= 2;
```

OUTPUT:

owner	name	type	date
Harold	Fluffy	litter	1995-05-15
Gwen	Claws	birthday	1998-03-17
Harold	Buffy	litter	1993-06-23
Harold	Buffy	litter	1994-06-19
Benny	Fang	birthday	1998-08-28
Diane	Bowser	kennel	1991-10-12

```
SELECT owner, name, type, date FROM (SELECT  pet.owner,
pet.name, event.type, date, YEAR(date)-YEAR(birth) -
(RIGHT(date,5)<RIGHT(birth,5)) AS age FROM pet, event WHERE
pet.name = event.name) AS t WHERE age >= 2;
```

OUTPUT:

owner	name	type	date
Harold	Fluffy	litter	1995-05-15
Harold	Buffy	litter	1993-06-23
Harold	Buffy	litter	1994-06-19
Diane	Bowser	kennel	1991-10-12
Benny	Fang	birthday	1998-08-28
Gwen	Claws	birthday	1998-03-17

Query 4: Write a query to list the pet who had the most number of "litter" event.

```
SELECT name FROM event WHERE type = 'litter' GROUP BY name
ORDER BY COUNT(*) DESC LIMIT 1;
```

OUTPUT:

name
Buffy

Query 5: Write a query to find the pet who had "litter" at its youngest age (i. e., her age is the youngest at the "litter" event among those who had "litter").

```
SELECT  pet.name FROM pet LEFT JOIN event on pet.name =
  event.name WHERE type = 'litter' ORDER BY YEAR(date)-
  YEAR(birth) - (RIGHT(date,5)<RIGHT(birth,5)) ASC limit 1;
```

OUTPUT:

name
Fluffy