Tehtävä 6: *Muuta aikaisemmin tehdyn pet-taulun rakenne oppimateriaalissa esitetyn kaltaiseksi, eli meillä on kaksi taulua, pet ja owner ja niiden välillä yhdestä moneen-yhteys.*

Esitä vastauksessasi tarvittavat SQL-lauseet sekä taulujen rakenne DESC-lauseella.

Alkuperäinen tilanne:

```
mysql> select * from pet;
+----------+--------+---------+------+------------+------------+
| 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    | m    | 1997-12-09 | NULL       |
| Slim     | Benny  | snake   | m    | 1996-04-29 | NULL       |
| Puffball | Diane  | hamster | f    | 1999-03-30 | NULL       |
+----------+--------+---------+------+------------+------------+
9 rows in set (0.00 sec)
```

1. Luodaan uusi owner-taulukko komennolla ja testataan ”desc owner;”:
   mysql> CREATE TABLE owner (owner_id INT Primary key, name VARCHAR(20));

```
mysql> desc owner;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| owner_id | int         | NO   | PRI | NULL    |       |
| name     | varchar(20) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

2. Lisätään owner_id -sarake ja poistetaan owner-sarake:
   mysql> ALTER TABLE pet ADD COLUMN owner_id INT, DROP COLUMN owner;

```
mysql> select * from pet;
+----------+---------+------+------------+------------+----------+
| name     | species | sex  | birth      | death      | owner_id |
+----------+---------+------+------------+------------+----------+
| Fluffy   | cat     | f    | 1993-02-04 | NULL       |     NULL |
| Claws    | cat     | m    | 1994-03-17 | NULL       |     NULL |
| Buffy    | dog     | f    | 1989-05-13 | NULL       |     NULL |
| Fang     | dog     | m    | 1990-08-27 | NULL       |     NULL |
| Bowser   | dog     | m    | 1979-08-31 | 1995-07-29 |     NULL |
| Chirpy   | bird    | f    | 1998-09-11 | NULL       |     NULL |
| Whistler | bird    | m    | 1997-12-09 | NULL       |     NULL |
| Slim     | snake   | m    | 1996-04-29 | NULL       |     NULL |
| Puffball | hamster | f    | 1999-03-30 | NULL       |     NULL |
+----------+---------+------+------------+------------+----------+
9 rows in set (0.00 sec)
```

3. Määritetään ulkoinen avain, foreign key:
   mysql> ALTER TABLE pet ADD CONSTRAINT fk_owner FOREIGN KEY (owner_id)
   REFERENCES owner(owner_id);

```
mysql> ALTER TABLE pet ADD CONSTRAINT fk_owner FOREIGN KEY (owner_id) REFERENCES owner(owner_id);
Query OK, 9 rows affected (0.07 sec)
Records: 9  Duplicates: 0  Warnings: 0

mysql> desc pet;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| name     | varchar(20) | YES  |     | NULL    |       |
| species  | varchar(20) | YES  |     | NULL    |       |
| sex      | char(1)     | YES  |     | NULL    |       |
| birth    | date        | YES  |     | NULL    |       |
| death    | date        | YES  |     | NULL    |       |
| owner_id | int         | YES  | MUL | NULL    |       |
+----------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

4. Lisätään omistajat ja liitetään nimiin spesifi owner_id:
   esim. mysql> INSERT INTO owner VALUES('1','Harold');

```
mysql> select * FROM owner;
+----------+--------+
| owner_id | name   |
+----------+--------+
|        1 | Harold |
|        2 | Gwen   |
|        3 | Benny  |
|        4 | Diane  |
+----------+--------+
4 rows in set (0.00 sec)
```

5. Asetetaan owner_id lemmikkiin. Esim. Haroldin owner_id on ”1” ja ’Fluffy’ lemmikkinsä. Toistetaan tämä kaikille omistajille.
   mysql> UPDATE pet SET owner_id = 1 WHERE name = 'Fluffy';

```
mysql> UPDATE pet SET owner_id = 1 WHERE name = 'Fluffy';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

6. Asetteluiden jälkeen tilanne näyttää tältä:

```
mysql> select * from pet;
+----------+---------+------+------------+------------+----------+
| name     | species | sex  | birth      | death      | owner_id |
+----------+---------+------+------------+------------+----------+
| Fluffy   | cat     | f    | 1993-02-04 | NULL       |        1 |
| Claws    | cat     | m    | 1994-03-17 | NULL       |        2 |
| Buffy    | dog     | f    | 1989-05-13 | NULL       |        1 |
| Fang     | dog     | m    | 1990-08-27 | NULL       |        3 |
| Bowser   | dog     | m    | 1979-08-31 | 1995-07-29 |        4 |
| Chirpy   | bird    | f    | 1998-09-11 | NULL       |        2 |
| Whistler | bird    | m    | 1997-12-09 | NULL       |        2 |
| Slim     | snake   | m    | 1996-04-29 | NULL       |        3 |
| Puffball | hamster | f    | 1999-03-30 | NULL       |        4 |
+----------+---------+------+------------+------------+----------+
9 rows in set (0.00 sec)
```

7. Testataan taulukoiden pet ja owner toiminta:

mysql> select pet.name AS pet_name, owner.name AS owner FROM pet INNER JOIN owner ON owner.owner_id = pet.owner_id;

```
mysql> select pet.name AS pet_name, owner.name AS owner FROM pet
 INNER JOIN owner ON owner.owner_id = pet.owner_id;
+----------+--------+
| pet_name | owner  |
+----------+--------+
| Fluffy   | Harold |
| Claws    | Gwen   |
| Buffy    | Harold |
| Fang     | Benny  |
| Bowser   | Diane  |
| Chirpy   | Gwen   |
| Whistler | Gwen   |
| Slim     | Benny  |
| Puffball | Diane  |
+----------+--------+
9 rows in set (0.00 sec)
```