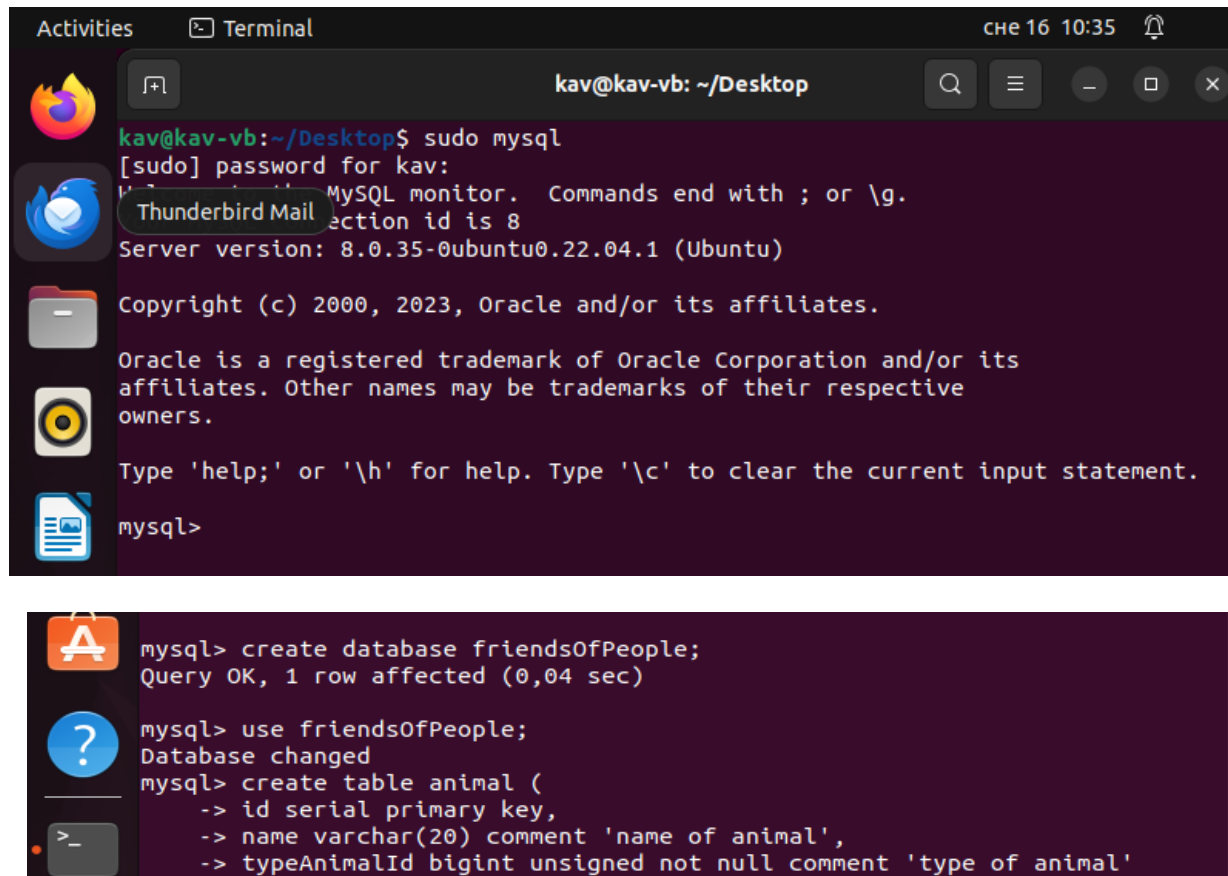


-- 7.2 В ранее подключенном MySQL создать базу данных с названием "FriendsOfPeople":



The screenshot shows a terminal window titled "Terminal" with the user "kav" at host "kav-vb" in the directory "~/Desktop". The terminal output shows the user running `sudo mysql`, which prompts for a password. After logging in, the user runs `create database friendsOfPeople;`, `use friendsOfPeople;`, and `create table animal (` followed by three lines of table specifications: `-> id serial primary key,`, `-> name varchar(20) comment 'name of animal',`, and `-> typeAnimalId bigint unsigned not null comment 'type of animal'`. The terminal output shows the success of the first two commands.

```
kav@kav-vb:~/Desktop$ sudo mysql
[sudo] password for kav:
MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.35-0ubuntu0.22.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
mysql> create database friendsOfPeople;
Query OK, 1 row affected (0,04 sec)

mysql> use friendsOfPeople;
Database changed
mysql> create table animal (
-> id serial primary key,
-> name varchar(20) comment 'name of animal',
-> typeAnimalId bigint unsigned not null comment 'type of animal'
```

-- 7.2.1 Создать таблицы, соответствующие иерархии из вашей диаграммы классов:

Activities Terminal che 16 10:50

kav@kav-vb: ~/Desktop

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> drop database if exists friendsOfPeople;
Query OK, 0 rows affected, 1 warning (0,01 sec)

mysql> create database friendsOfPeople;
Query OK, 1 row affected (0,04 sec)

mysql> use friendsOfPeople;
Database changed
mysql> create table animal (
    -> id serial primary key,
    -> name varchar(20) comment 'name of animal',
    -> typeAnimalId bigint unsigned not null comment 'type of animal'
    -> ^C
mysql> create table animal (
    -> id serial primary key,
    -> name varchar(20) comment 'name of animal',
    -> typeAnimalId bigint unsigned not null comment 'type of animal',
    -> birthDayAnimal date
    -> );
Query OK, 0 rows affected (0,17 sec)
```

```
    -> id serial primary key,
    -> categoryOfAnimalId bigint unsigned not null,
    -> clanOfAnimalId bigint unsigned not null
    -> );
Query OK, 0 rows affected (0,28 sec)

mysql> select * from typeOfAnimal;
Empty set (0,00 sec)

mysql> drop table if exists clanOfAnimal;
Query OK, 0 rows affected, 1 warning (0,03 sec)

mysql> create table clanOfAnimal(
    -> id serial,
    -> name varchar(20),
    -> desc varchar(30)
    -> );
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'desc varchar(30)' at line 4
mysql> create table clanOfAnimal(
    -> name varchar(20),
    -> descriphion varchar(30)
    -> );
Query OK, 0 rows affected (0,12 sec)

mysql>
```

```
mysql> create table clanOfAnimal(  
  -> name varchar(20),  
  -> description varchar(30)  
  -> );  
Query OK, 0 rows affected (0,12 sec)  
  
mysql> drop table if exists categoryOfAnimal;  
Query OK, 0 rows affected, 1 warning (0,03 sec)  
  
mysql> create table categoryOfAnimal(  
  -> id serial,  
  -> name varchar(20)  
  -> );  
Query OK, 0 rows affected (0,16 sec)
```

```
mysql> alter table animal add constraint fk_typeAnimalId  
  -> foreign key (typeAnimalId) references typeOfAnimal(id)  
  -> on delete cascade  
  -> on update cascade;  
Query OK, 0 rows affected (0,36 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
mysql>
```

```
mysql> alter table animal add constraint fk_typeAnimalId  
  -> foreign key (typeAnimalId) references typeOfAnimal(id)  
  -> on delete cascade  
  -> on update cascade;  
Query OK, 0 rows affected (0,36 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
  
mysql> alter table typeOfAnimal add constraint fk_clanOfAnimalId  
  -> foreign key (clanOfAnimalId) references clanOfAnimal(id)  
  -> on delete cascade  
  -> on update cascade;  
ERROR 3734 (HY000): Failed to add the foreign key constraint. Missing column 'id' fo  
r constraint 'fk_clanOfAnimalId' in the referenced table 'clanOfAnimal'  
mysql> drop table if exists clanOfAnimal;  
Query OK, 0 rows affected (0,09 sec)  
  
mysql> create table clanOfAnimal(  
  -> id serial,  
  -> name varchar(20),  
  -> description varchar(30)  
  -> );  
Query OK, 0 rows affected (0,13 sec)  
  
mysql>
```

Activities Terminal che 16 12:33

kav@kav-vb: ~/Desktop

```
-> on update cascade;
ERROR 3734 (HY000): Failed to add the foreign key constraint. Missing column 'id' for constraint 'fk_clanOfAnimalId' in the referenced table 'clanOfAnimal'
mysql> drop table if exists clanOfAnimal;
Query OK, 0 rows affected (0,09 sec)

mysql> create table clanOfAnimal(
-> id serial,
-> name varchar(20),
-> description varchar(30)
-> );
Query OK, 0 rows affected (0,13 sec)

mysql> alter table typeOfAnimal add constraint fk_clanOfAnimalId
-> foreign key (clanOfAnimalId) references clanOfAnimal(id)
-> on delete cascade
-> on update cascade;
Query OK, 0 rows affected (0,31 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table typeOfAnimal add constraint fk_categoryOfAnimalId
-> foreign key (categoryOfAnimalId) references categoryOfAnimal(id)
-> on delete cascade
-> on update cascade;
Query OK, 0 rows affected (0,35 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> drop table if exists commandForAnimal;
Query OK, 0 rows affected, 1 warning (0,02 sec)

mysql> create table commandForAnimal(
-> id serial primary key,
-> animalId bigint unsigned not null,
-> typeOfCommandId bigint unsigned not null
-> );
Query OK, 0 rows affected (0,12 sec)

mysql>
```

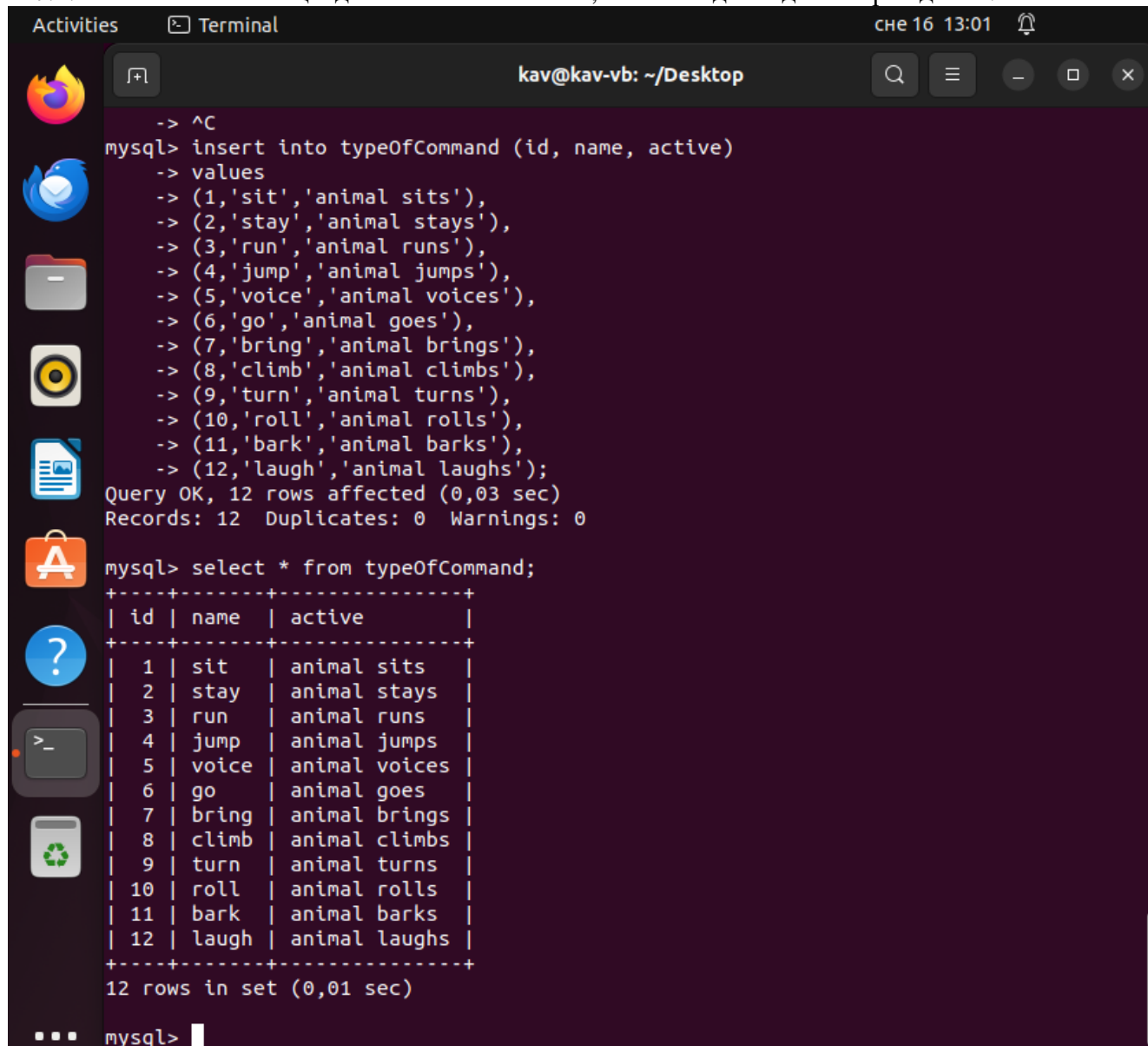
```
mysql> create table typeOfCommand(
-> id serial,
-> name varchar(20),
-> active varchar(20)
-> );
Query OK, 0 rows affected (0,22 sec)

mysql> alter table commandForAnimal add constraint fk_commandForAnimalId
-> foreign key (typeOfCommandId) references animal(id)
-> on delete cascade
-> on update cascade;
Query OK, 0 rows affected (0,37 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table commandForAnimal add constraint fk_typeOfCommandId
-> foreign key (typeOfCommandId) references typeOfCommand(id)
-> on delete cascade
-> on update cascade;
Query OK, 0 rows affected (0,32 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
```

-- 7.2.2 Заполнить таблицы данными о животных, их командах и датами рождения:



The image shows a terminal window titled "kav@kav-vb: ~/Desktop" with a dark background. The terminal displays a series of MySQL commands and their outputs. The first command is an INSERT statement into the 'typeOfCommand' table. The second command is a SELECT statement that returns a table of 12 rows. The terminal window has a sidebar on the left with various application icons and a top bar with system information.

```
-> ^C
mysql> insert into typeOfCommand (id, name, active)
-> values
-> (1,'sit','animal sits'),
-> (2,'stay','animal stays'),
-> (3,'run','animal runs'),
-> (4,'jump','animal jumps'),
-> (5,'voice','animal voices'),
-> (6,'go','animal goes'),
-> (7,'bring','animal brings'),
-> (8,'climb','animal climbs'),
-> (9,'turn','animal turns'),
-> (10,'roll','animal rolls'),
-> (11,'bark','animal barks'),
-> (12,'laugh','animal laughs');
Query OK, 12 rows affected (0,03 sec)
Records: 12  Duplicates: 0  Warnings: 0

mysql> select * from typeOfCommand;
+-----+-----+-----+
| id | name | active |
+-----+-----+-----+
| 1 | sit | animal sits |
| 2 | stay | animal stays |
| 3 | run | animal runs |
| 4 | jump | animal jumps |
| 5 | voice | animal voices |
| 6 | go | animal goes |
| 7 | bring | animal brings |
| 8 | climb | animal climbs |
| 9 | turn | animal turns |
| 10 | roll | animal rolls |
| 11 | bark | animal barks |
| 12 | laugh | animal laughs |
+-----+-----+-----+
12 rows in set (0,01 sec)

mysql>
```

```
mysql> insert into clanOfAnimal (name, descripshion)
-> values
-> ('dog','dog,wolf,fox'),
-> ('cat','cat,lion,tiger'),
-> ('hamster','hamster,mouse,chipmunk'),
-> ('horse','horse,zebra,kulan'),
-> ('camel','camel,oont,dromedary'),
-> ('donkey','donkey,dicky,ass');
Query OK, 6 rows affected (0,04 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> select * from clanOfAnimal;
+----+-----+-----+
| id | name      | descripshion |
+----+-----+-----+
| 1  | dog       | dog,wolf,fox |
| 2  | cat       | cat,lion,tiger |
| 3  | hamster   | hamster,mouse,chipmunk |
| 4  | horse     | horse,zebra,kulan |
| 5  | camel     | camel,oont,dromedary |
| 6  | donkey    | donkey,dicky,ass |
+----+-----+-----+
6 rows in set (0,00 sec)

mysql>
```

```
mysql> insert into categoryOfAnimal (id, name)
-> values
-> (1,'pet'),
-> (2,'sumpter');
Query OK, 2 rows affected (0,04 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from categoryOfAnimal;
+----+-----+
| id | name |
+----+-----+
| 1  | pet  |
| 2  | sumpter |
+----+-----+
2 rows in set (0,00 sec)

mysql>
```



```
mysql> insert into typeOfAnimal (clanOfAnimalId, categoryOfAnimalId)
-> values
-> (1,1),
-> (2,1),
-> (3,1),
-> (4,2),
-> (5,2),
-> (6,2);
Query OK, 6 rows affected (0,03 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql> select * from typeOfAnimal;
+-----+-----+-----+
| id | categoryOfAnimalId | clanOfAnimalId |
+-----+-----+-----+
| 1 | 1 | 1 |
| 2 | 1 | 2 |
| 3 | 1 | 3 |
| 4 | 2 | 4 |
| 5 | 2 | 5 |
| 6 | 2 | 6 |
+-----+-----+-----+
6 rows in set (0,00 sec)

mysql>
```

```
Activities Terminal che 16 13:54
kav@kav-vb: ~/Desktop
mysql> insert into animal (name, typeAnimalId, birthDayAnimal)
-> values
-> ('dog1',1,'2023-09-02'),
-> ('wolf1',1,'2022-11-01'),
-> ('cat1',2,'2023-06-25'),
-> ('lion1',2,'2022-03-26'),
-> ('bigMouse',3,'2023-10-11'),
-> ('smallMouse',3,'2022-08-08'),
-> ('horse1',4,'2023-07-04'),
-> ('horse2',4,'2022-06-05'),
-> ('cam1',5,'2023-03-15'),
-> ('cam2',5,'2022-05-25'),
-> ('donkey1',6,'2023-06-20'),
-> ('donkey2',6,'2022-01-21');
Query OK, 12 rows affected (0,04 sec)
Records: 12 Duplicates: 0 Warnings: 0

mysql> select * from animal;
+-----+-----+-----+-----+
| id | name | typeAnimalId | birthDayAnimal |
+-----+-----+-----+-----+
| 1 | dog1 | 1 | 2023-09-02 |
| 2 | wolf1 | 1 | 2022-11-01 |
| 3 | cat1 | 2 | 2023-06-25 |
| 4 | lion1 | 2 | 2022-03-26 |
| 5 | bigMouse | 3 | 2023-10-11 |
| 6 | smallMouse | 3 | 2022-08-08 |
| 7 | horse1 | 4 | 2023-07-04 |
| 8 | horse2 | 4 | 2022-06-05 |
| 9 | cam1 | 5 | 2023-03-15 |
| 10 | cam2 | 5 | 2022-05-25 |
| 11 | donkey1 | 6 | 2023-06-20 |
| 12 | donkey2 | 6 | 2022-01-21 |
+-----+-----+-----+-----+
12 rows in set (0,00 sec)

mysql>
mysql>
```

ActivitiesTerminalche 16 14:05

kav@kav-vb: ~/Desktop

12 rows in set (0,00 sec)

mysql>

mysql> insert into commandForAnimal (animalId, typeOfCommandId)

-> values

-> (1,1),(1,2),(1,3),

-> (2,2),(1,3),(1,4),

-> (3,4),(3,4),(3,6),

-> (4,6),(4,7),(4,8),

-> (5,1),(5,3),(5,4),

-> (6,1),(6,10),(6,12),

-> (7,2),(7,9),(7,8),

-> (8,10),(8,11),(8,12),

-> (9,8),(9,9),(9,10),

-> (10,1),(10,2),(10,9),

-> (11,4),(11,5),(11,6),

-> (12,7),(12,8),(12,12);

Query OK, 36 rows affected (0,04 sec)

Records: 36 Duplicates: 0 Warnings: 0

mysql> select * from commandForAnimal;

+-----+-----+-----+

| id | animalId | typeOfCommandId |

+-----+-----+-----+

| 1 | 1 | 1 |

| 2 | 1 | 2 |

| 3 | 1 | 3 |

| 4 | 2 | 2 |

| 5 | 1 | 3 |

| 6 | 1 | 4 |

| 7 | 3 | 4 |

| 8 | 3 | 4 |

| 9 | 3 | 6 |

| 10 | 4 | 6 |

| 11 | 4 | 7 |

| 12 | 4 | 8 |

| 13 | 5 | 1 |

| 14 | 5 | 3 |

Activities Terminal снч 16 14:13

Firefox Web Browser kav@kav-vb: ~/Desktop

10	cam2	5	2022-05-25	30	10	9
11	donkey1	6	2023-06-20	31	11	4
11	donkey1	6	2023-06-20	32	11	5
11	donkey1	6	2023-06-20	33	11	6
12	donkey2	6	2022-01-21	34	12	7
12	donkey2	6	2022-01-21	35	12	8
12	donkey2	6	2022-01-21	36	12	12

36 rows in set (0,01 sec)

```
mysql> select * from animal;
```

id	name	typeAnimalId	birthDayAnimal
1	dog1	1	2023-09-02
2	wolf1	1	2022-11-01
3	cat1	2	2023-06-25
4	lion1	2	2022-03-26
5	bigMouse	3	2023-10-11
6	smallMouse	3	2022-08-08
7	horse1	4	2023-07-04
8	horse2	4	2022-06-05
9	cam1	5	2023-03-15
10	cam2	5	2022-05-25
11	donkey1	6	2023-06-20
12	donkey2	6	2022-01-21

12 rows in set (0,00 sec)

```
mysql>
```

-- 7.2.3 Удалить записи о верблюдах:

Activities

Terminal

сне 16 14:14

Firefox Web Browser

kav@kav-vb: ~/Desktop

Q

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□

×

1	dog1	1	2023-09-02
2	wolf1	1	2022-11-01
3	cat1	2	2023-06-25
4	lion1	2	2022-03-26
5	bigMouse	3	2023-10-11
6	smallMouse	3	2022-08-08
7	horse1	4	2023-07-04
8	horse2	4	2022-06-05
9	cam1	5	2023-03-15
10	cam2	5	2022-05-25
11	donkey1	6	2023-06-20
12	donkey2	6	2022-01-21

12 rows in set (0,00 sec)

mysql> delete from animal a
-> where a.typeAnimalId = 5;
Query OK, 2 rows affected (0,02 sec)

mysql> select * from animal;

id	name	typeAnimalId	birthDayAnimal
1	dog1	1	2023-09-02
2	wolf1	1	2022-11-01
3	cat1	2	2023-06-25
4	lion1	2	2022-03-26
5	bigMouse	3	2023-10-11
6	smallMouse	3	2022-08-08
7	horse1	4	2023-07-04
8	horse2	4	2022-06-05
11	donkey1	6	2023-06-20
12	donkey2	6	2022-01-21

10 rows in set (0,00 sec)

mysql>

```
Activities Terminal сн 16 14:19
kav@kav-vb: ~/Desktop

+-----+-----+-----+-----+
| id | name | typeAnimalId | birthDayAnimal |
+-----+-----+-----+-----+
| 1 | dog1 | 1 | 2023-09-02 |
| 2 | wolf1 | 1 | 2022-11-01 |
| 3 | cat1 | 2 | 2023-06-25 |
| 4 | lion1 | 2 | 2022-03-26 |
| 5 | bigMouse | 3 | 2023-10-11 |
| 6 | smallMouse | 3 | 2022-08-08 |
| 7 | horse1 | 4 | 2023-07-04 |
| 8 | horse2 | 4 | 2022-06-05 |
| 11 | donkey1 | 6 | 2023-06-20 |
| 12 | donkey2 | 6 | 2022-01-21 |
+-----+-----+-----+-----+
10 rows in set (0,00 sec)

mysql> drop table if exists horseAndDonkey;
Query OK, 0 rows affected, 1 warning (0,01 sec)

mysql> create table horseAndDonkey as
-> select * from animal a where a.typeAnimalId = 4
-> union
-> select * from animal a where a.typeAnimalId = 6;
Query OK, 4 rows affected (0,14 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> select * from horseAndDonkey;
+-----+-----+-----+-----+
| id | name | typeAnimalId | birthDayAnimal |
+-----+-----+-----+-----+
| 7 | horse1 | 4 | 2023-07-04 |
| 8 | horse2 | 4 | 2022-06-05 |
| 11 | donkey1 | 6 | 2023-06-20 |
| 12 | donkey2 | 6 | 2022-01-21 |
+-----+-----+-----+-----+
4 rows in set (0,00 sec)

mysql>
```

-- 7.2.5 Создать новую таблицу для животных в возрасте от 1 до 3 лет и вычислить их возраст

-- с точностью до месяца:

```
mysql> create table youngAnimal as
-> select a.id, a.name, a.typeAnimalId, a.birthDayAnimal, timestampdiff
-> ^C
mysql> create table youngAnimal as
-> select a.id, a.name, a.typeAnimalId, a.birthDayAnimal,
-> timestampdiff(year, a.birthDayAnimal, curdate()) as 'year',
-> (timestampdiff(month, a.birthDayAnimal, curdate()) % 12) as 'month'
-> from animal a
-> where (timestampdiff(year, a.birthDayAnimal, curdate())) between 1 and 3;
Query OK, 5 rows affected (0,12 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> select * from youngAnimal;
+-----+-----+-----+-----+-----+-----+
| id | name       | typeAnimalId | birthDayAnimal | year | month |
+-----+-----+-----+-----+-----+-----+
| 2 | wolf1      | 1 | 2022-11-01    | 1 | 1 |
| 4 | lion1      | 2 | 2022-03-26    | 1 | 8 |
| 6 | smallMouse | 3 | 2022-08-08    | 1 | 4 |
| 8 | horse2     | 4 | 2022-06-05    | 1 | 6 |
| 12 | donkey2    | 6 | 2022-01-21    | 1 | 10 |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0,01 sec)

mysql>
```

-- 7.2.6 Объединить все созданные таблицы в одну, сохраняя информацию о принадлежности к исходным таблицам.

```
mysql> create table sumTableAnimal as
-> (select * from youngAnimal
-> union
-> select *, null as 'year',
-> null as 'month'
-> from horseAndDonkey);
Query OK, 9 rows affected (0,12 sec)
Records: 9 Duplicates: 0 Warnings: 0
```

```
mysql> select * from sumTableAnimal;
+-----+-----+-----+-----+-----+-----+
| id | name       | typeAnimalId | birthDayAnimal | year | month |
+-----+-----+-----+-----+-----+-----+
| 2 | wolf1      | 1 | 2022-11-01    | 1 | 1 |
| 4 | lion1      | 2 | 2022-03-26    | 1 | 8 |
| 6 | smallMouse | 3 | 2022-08-08    | 1 | 4 |
| 8 | horse2     | 4 | 2022-06-05    | 1 | 6 |
| 12 | donkey2    | 6 | 2022-01-21    | 1 | 10 |
| 7 | horse1     | 4 | 2023-07-04    | NULL | NULL |
| 8 | horse2     | 4 | 2022-06-05    | NULL | NULL |
| 11 | donkey1    | 6 | 2023-06-20    | NULL | NULL |
| 12 | donkey2    | 6 | 2022-01-21    | NULL | NULL |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0,01 sec)

mysql>
```