Задание №7

1. В подключенном MySQL репозитории создать базу данных “Друзья человека”.
2. Создать таблицы, соответствующие иерархии из вашей диаграммы классов.
3. Заполнить таблицы данными о животных, их командах и датами рождения.
4. Удалить записи о верблюдах и объединить таблицы лошадей и ослов.
5. Создать новую таблицу для животных в возрасте от 1 до 3 лет и вычислить их возраст с точностью до месяца (в отдельном столбце).
6. Объединить все созданные таблицы в одну, сохраняя информацию о принадлежности к исходным таблицам.

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**andrey@andrey-VirtualBox**:**~**$ sudo mysql

# создаём БД (file: 1-create\_db.sql):

mysql> create database HumanFriends;

mysql> use HumanFriends;

# создаём таблицы (file: 2-create\_tables.sql):

mysql> CREATE TABLE Cat (

-> id INT AUTO\_INCREMENT,

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> CREATE TABLE Dog (

-> id INT AUTO\_INCREMENT,

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> CREATE TABLE Hamster (

-> id INT AUTO\_INCREMENT,

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> CREATE TABLE Horse (

-> id INT AUTO\_INCREMENT,

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> CREATE TABLE Camel (

-> id INT AUTO\_INCREMENT,

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> CREATE TABLE Donkey (

-> id INT AUTO\_INCREMENT,

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> show tables;

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

| Tables\_in\_HumanFriends |

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

| Camel |

| Cat |

| Dog |

| Donkey |

| Hamster |

| Horse |

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

# заполняем таблицы (file: 3-insert\_datas.sql):

mysql> INSERT INTO Cat (Nick, BirthDay, Commands) VALUES

-> ('Whiskers', '2021-05-15', ('Sit,Pounce')),

-> ('Smudge', '2022-02-02', ('Sit,Pounce,Scratch')),

-> ('Oliver', '2022-06-30', ('Meow,Scratch,Jump'));

mysql> INSERT INTO Dog (Nick, BirthDay, Commands) VALUES

-> ('Fido', '2022-01-01', ('Sit,Stay,Fetch')),

-> ('Buddy', '2020-12-10', ('Sit,Paw,Bark')),

-> ('Bella', '2021-11-11', ('Sit,Stay,Roll'));

mysql> INSERT INTO Hamster (Nick, BirthDay, Commands) VALUES

-> ('Hammy', '2023-03-10', ('Roll,Hide')),

-> ('Peanut', '2023-08-01', ('Roll,Spin'));

mysql> INSERT INTO Horse (Nick, BirthDay, Commands) VALUES

-> ('Thunder', '2017-07-21', ('Trot,Canter,Gallop')),

-> ('Storm', '2016-05-05', ('Trot,Canter')),

-> ('Blaze', '2022-02-28', ('Trot,Jump,Gallop'));

mysql> INSERT INTO Camel (Nick, BirthDay, Commands) VALUES

-> ('Sandy', '2018-11-03', ('Walk,Carry Load')),

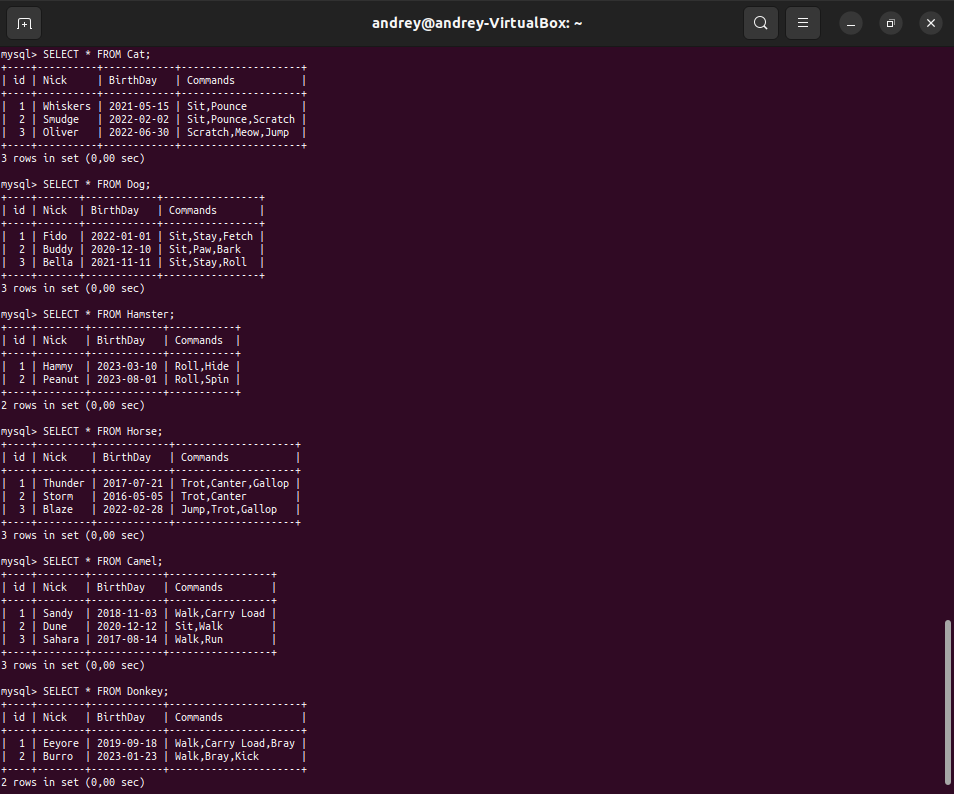
-> ('Dune', '2020-12-12', ('Walk,Sit')),

-> ('Sahara', '2017-08-14', ('Walk,Run'));

mysql> INSERT INTO Donkey (Nick, BirthDay, Commands) VALUES

-> ('Eeyore', '2019-09-18', ('Walk,Carry Load,Bray')),

-> ('Burro', '2023-01-23', ('Walk,Bray,Kick'));



# Удаляем записи о верблюдах и объединяем таблицы лошадей и ослов (file: 4-del\_and\_create.sql):

mysql> DELETE FROM Camel;

mysql> CREATE TABLE Packs (

-> id INT AUTO\_INCREMENT,

-> Typ VARCHAR(12),

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide'

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

mysql> INSERT INTO Packs (Typ, Nick, BirthDay, Commands)

-> SELECT 'Horse', Nick, BirthDay, Commands FROM Horse

-> UNION ALL SELECT 'Camel', Nick, BirthDay, Commands FROM Camel

-> UNION ALL SELECT 'Donkey', Nick, BirthDay, Commands FROM Donkey;

# заодно создадим аналогичную таблицу и для домашних животных (file: 4a-create\_pets.sql):

mysql> CREATE TABLE Pets (

-> id INT AUTO\_INCREMENT,

-> Typ VARCHAR(12),

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

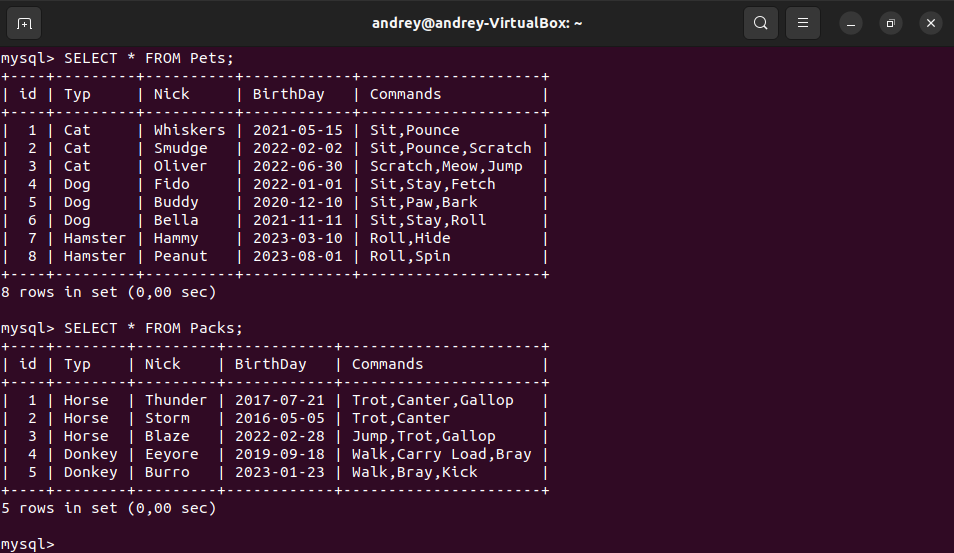
-> PRIMARY KEY(id));

mysql> INSERT INTO Pets (Typ, Nick, BirthDay, Commands)

-> SELECT 'Cat', Nick, BirthDay, Commands FROM Cat

-> UNION ALL SELECT 'Dog', Nick, BirthDay, Commands FROM Dog

-> UNION ALL SELECT 'Hamster', Nick, BirthDay, Commands FROM Hamster;



# Создать новую таблицу для животных в возрасте от 1 до 3 лет и вычислить их возраст с точностью до месяца (в отдельном столбце) (file: 5-create\_young.sql):

mysql> CREATE TABLE YoungAnimals (

-> id INT AUTO\_INCREMENT,

-> Typ VARCHAR(12),

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> Age TEXT,

-> PRIMARY KEY(id));

mysql> INSERT INTO YoungAnimals (Typ, Nick, BirthDay, Commands, Age)

-> SELECT Typ, Nick, BirthDay, Commands,

-> CONCAT(TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) div 12, ' year, ',

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) % 12, ' month')

-> FROM Pets

-> WHERE

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) >= 12 AND

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) < 36

-> UNION ALL SELECT Typ, Nick, BirthDay, Commands,

-> CONCAT(TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) div 12, ' year, ',

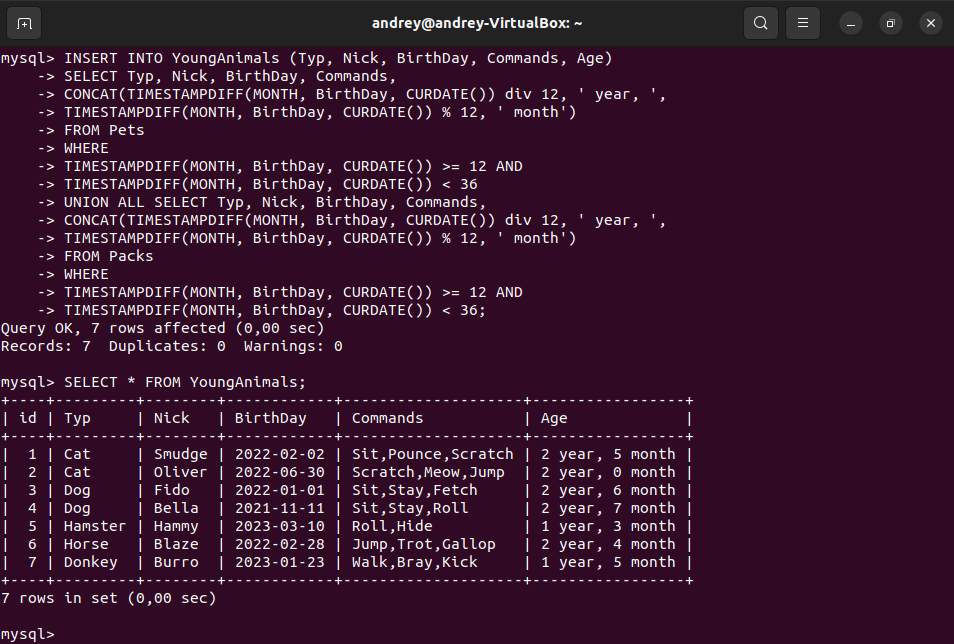
-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) % 12, ' month')

-> FROM Packs

-> WHERE

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) >= 12 AND

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) < 36;



# объединяем все таблицы в одну, с сохранением информации о их принадлежности к исходным таблицам (file: 6-concatenate.sql):

mysql> CREATE TABLE AllAnimal (

-> id INT AUTO\_INCREMENT,

-> Typ VARCHAR(12),

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> PRIMARY KEY(id));

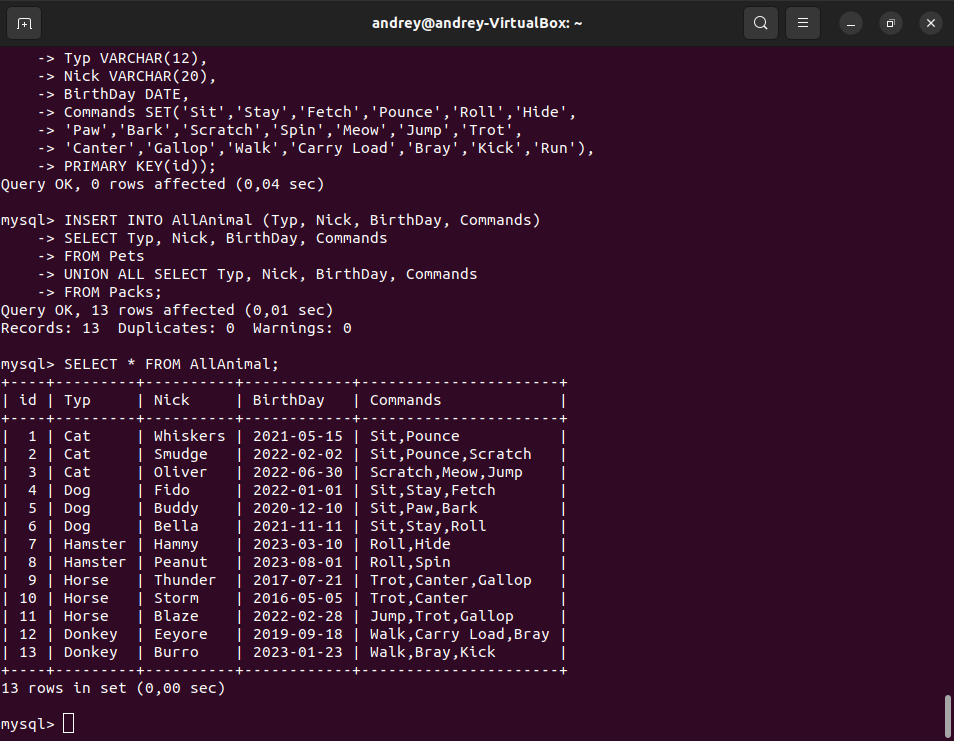
mysql> INSERT INTO AllAnimal (Typ, Nick, BirthDay, Commands)

-> SELECT Typ, Nick, BirthDay, Commands

-> FROM Pets

-> UNION ALL SELECT Typ, Nick, BirthDay, Commands

-> FROM Packs;



# или можно объединить с добавлением возраста (file: 7-concatenate with age.sql):

mysql> CREATE TABLE AllAnimal (

-> id INT AUTO\_INCREMENT,

-> Typ VARCHAR(12),

-> Nick VARCHAR(20),

-> BirthDay DATE,

-> Commands SET('Sit','Stay','Fetch','Pounce','Roll','Hide',

-> 'Paw','Bark','Scratch','Spin','Meow','Jump','Trot',

-> 'Canter','Gallop','Walk','Carry Load','Bray','Kick','Run'),

-> Age TEXT,

-> PRIMARY KEY(id));

mysql> INSERT INTO AllAnimal (Typ, Nick, BirthDay, Commands, Age)

-> SELECT Typ, Nick, BirthDay, Commands,

-> CONCAT(TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) div 12, ' year, ',

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) % 12, ' month')

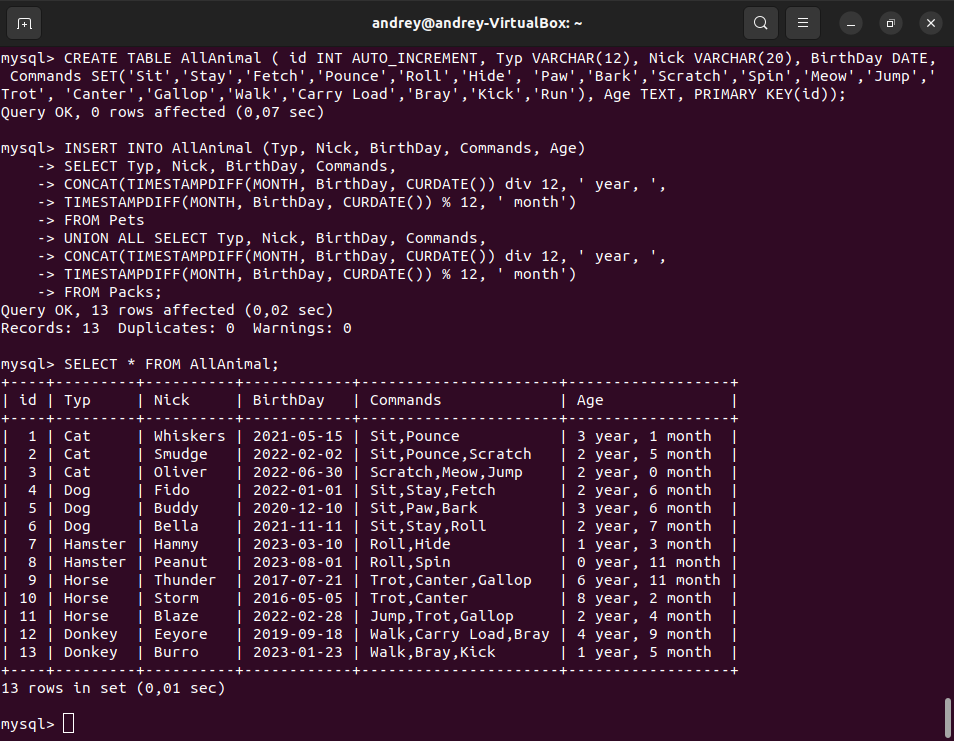
-> FROM Pets

-> UNION ALL SELECT Typ, Nick, BirthDay, Commands,

-> CONCAT(TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) div 12, ' year, ',

-> TIMESTAMPDIFF(MONTH, BirthDay, CURDATE()) % 12, ' month')

-> FROM Packs;



Примечание. Все расчёты с датами в таблицах сделаны на 6.07.2024 г.