#### Мельниченко Егор

# Группа (4738 или 4631) точно непонятна, т.к. привязан к двум чатам в телеграмм

Финальная домашняя работа

1 часть. Linux

#### Задание 1.

Для выполнения работы создаю директорию «hw fin 2»

```
A new PowerShell stable release is available: v7.4.0
  Upgrade now, or check out the release page at:
    https://aka.ms/PowerShell-Release?tag=v7.4.0
PS C:\Users\Erop> ssh -p 8022 db@localhost
db@localhost's password:
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-37-generic x86 64)
 * Documentation: https://help.ubuntu.com
 * Management:
                  https://landscape.canonical.com
 * Support:
                  https://ubuntu.com/advantage
Расширенное поддержание безопасности (ESM) для Applications выключено.
97 обновлений может быть применено немедленно.
73 из этих обновлений, являются стандартными обновлениями безопасности.
Чтобы просмотреть дополнительные обновления выполните: apt list --upgradable
12 дополнительных обновлений безопасности могут быть применены с помощью ESM Apps.
Подробнее о включении службы ESM Apps at https://ubuntu.com/esm
Last login: Sat Nov 25 21:16:20 2023 from 192.168.88.44
   gb-linux:~$ mkdir hw_fin_2
   b-linux:~$ cd hw_fin_2
```

Создаем два файла и сразу заполняем их животными (были трудности перевода, поэтому вместо хомяка появилась ветчина, но переделывать не стал, понял уже когда диаграмму делал):

#### Pets.txt

```
db@gb-linux:~/hw_fin_2$ cat > Pets.txt
Dogs
CCats
Hams
```

Pack\_animals.txt

```
db@gb-linux:~/hw_fin_2$ cat > Pack_animals.txt
horse
camel
/sheep
^C
db@gb-linux:~/hw_fin_2$ cat Pack_animals.txt
horse
camel
sheep
db@gb-linux:~/hw_fin_2$ _
```

## Объединение двух файлов, переименование и просмотр результата

```
db@gb-linux:~/hw_fin_2$ cat Pets.txt Pack_animals.txt > HumanFriends.txt
db@gb-linux:~/hw_fin_2$ cat HumanFriends.txt

Dogs
Cats
Hams
horse
camel
sheep
db@gb-linux:~/hw_fin_2$
```

# Проверка файлов через Is

```
db@gb-linux:~/hw_fin_2$ ls
HumanFriends.txt Pack_animals.txt Pets.txt
```

#### Задание 2.

## Создание новой директории и перемещение в него сводного файла

```
db@gb-linux:~$ mkdir hw_fin_2_dop
db@gb-linux:~$ mv ./hw_fin_2/HumanFriends.txt ./hw_fin_2_dop/
db@gb-linux:~$ cd hw_fin_2_dop
db@gb-linux:~/hw_fin_2_dop$ ls
HumanFriends.txt
db@gb-linux:~/hw_fin_2_dop$ _
```

# 2 часть SQL

```
Last login: Tue Dec 26 23:05:20 2023 from 10.0.2.2

-db@gb-linux:~$ sudo apt update

Cyuri http://pu.anchivo.ubuntu.com/ubuntu.jammy InPulate obirb oonobjeno 20 makerob.

db@gb-linux:~$ sudo apt upgrade
```

Установка mysql через apt

```
inux:~$ sudo apt install mysql-server
Построение дерева зависимостей… Готово
Нтение информации о состоянии… Готово
Следующие НОВЫЕ пакеты будут установлены:
mysql-server
Обновлено 0 пакетов, установлено 1 новых пакетов, для удаления отмечено 0 пакетов, и 3 пакетов не с
новлено.
Необходимо скачать 9 464 В архивов.
После данной операции объём занятого дискового пространства возрастёт на 35,8 kB.
Пол:1 http://ru.archive.ubuntu.com/ubuntu jammy-updates/main amd64 mysql-server all 8.0.35-0ubuntu0
22.04.1 [9 464 B]
Получено 9 464 В за 0c (59,6 kB/s)
Выбор ранее не выбранного пакета mysql-server.
(Чтение базы данных … на данный момент установлено 193512 файлов и каталогов.)
Подготовка к распаковке …/mysql-server_8.0.35-0ubuntu0.22.04.1_all.deb …
Распаковывается mysql-server (8.0.35-0ubuntu0.22.04.1) "
Haстраивается пакет mysql-server (8.0.35-0ubuntu0.22.04.1) …
```

Для установки через dpkg скачиваем установочный пакет через wget

```
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```

Подключение внешних репозиториев осуществляется через папку sources.list.d/: Папка находится по адреесу /etc/apt/sources.list.d/<name>.list

Устанавливаем через sudo dpkg -i <package>

```
db@gb-linux:~$ sudo dpkg -i mysql-apt-config_0.8.12-1_all.deb
```

```
MySQL APT Repo features MySQL Server along with a variety of MySQL components. You may select the appropriate product to choose the version that you wish to receive.

Once you are satisfied with the configuration then select last option 'Ok' to save the configuration, then run 'apt-get update' to load package list. Advanced users can always change the configurations later, depending on their own needs.

Which MySQL product do you wish to configure?

MySQL Server & Cluster (Currently selected: mysql-8.0)
MySQL Tools & Connectors (Currently selected: Enabled)
MySQL Preview Packages (Currently selected: Enabled)
Ok
```

#### Удаление пакета

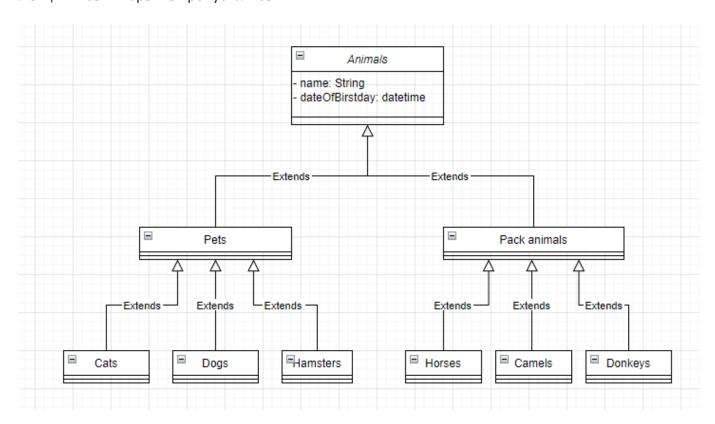
db@gb-linux:~\$ sudo dpkg -r --force-all mysql-server-8.0

#### 3 часть SQL

## Задача 6

# Диаграмма классов

Это первая диаграмма классов, которую делал. В процессе обучения это не проходили. Ориентировался на информацию из faq. По ощущениям должно быть что-то большее. Лекции и семинары не пропускались.



## -- Задача 7 – 8 – 9

DROP DATABASE IF EXISTS Human\_Friends; CREATE DATABASE Human\_Friends; use Human Friends;

DROP TABLE IF EXISTS Animals; CREATE TABLE Animals ( id INT PRIMARY KEY AUTO\_INCREMENT, type\_animals VARCHAR(15));

INSERT INTO
Animals (type\_animals)
VALUES

```
("Pets"),
       ("Pack_animals");
DROP TABLE IF EXISTS Pets;
CREATE TABLE Pets (
id INT PRIMARY KEY AUTO_INCREMENT,
animal VARCHAR(15),
type_animals VARCHAR(15));
INSERT INTO
  Pets (animal, type_animals)
VALUES
       ("cats", "Pets"),
       ("dogs", "Pets"),
       ("hamsters", "Pets");
DROP TABLE IF EXISTS Pack animals;
CREATE TABLE Pack animals (
id INT PRIMARY KEY AUTO INCREMENT,
animal VARCHAR(15),
type animals VARCHAR(15));
INSERT INTO
       Pack_animals (animal, type_animals)
VALUES
       ("horses", "Pack animals"),
      ("camels", "Pack_animals"),
       ("donkeys", "Pack_animals");
DROP TABLE IF EXISTS Cats;
CREATE TABLE Cats (
ID INT PRIMARY KEY AUTO_INCREMENT,
Name VARCHAR(15),
Type VARCHAR(15),
BirthDate Date,
Commands VARCHAR(30),
animal VARCHAR(15));
INSERT INTO
      Cats (Name, Type, BirthDate, Commands, animal)
VALUES
       ("mursik", "cat", "2022-02-02", "Sit, Pounce", "cats"),
       ("belyi", "cat", "2021-03-08", "Sit, Pounce", "cats"),
       ("pushok", "cat", "2019-01-01", "Sit, Pounce", "cats"),
       ("kisa", "cat", "2023-05-02", "Sit, Pounce", "cats");
DROP TABLE IF EXISTS Dogs;
```

```
CREATE TABLE Dogs (
ID INT PRIMARY KEY AUTO_INCREMENT,
Name VARCHAR(15),
Type VARCHAR(15),
BirthDate Date,
Commands VARCHAR(30),
animal VARCHAR(15));
INSERT INTO
       Dogs (Name, Type, BirthDate, Commands, animal)
VALUES
       ("tobik", "dog", "2020-08-03", "Sit, Paw, Bark", "dogs"),
       ("bobik", "dog", "2022-01-03", "Sit, Paw, Bark", "dogs"),
       ("belka", "dog", "2022-10-03", "Sit, Paw, Bark", "dogs"),
       ("tusik", "dog", "2021-12-04", "Sit, Paw, Bark", "dogs");
DROP TABLE IF EXISTS Hamsters;
CREATE TABLE Hamsters (
ID INT PRIMARY KEY AUTO INCREMENT,
Name VARCHAR(15),
Type VARCHAR(15),
BirthDate Date,
Commands VARCHAR(30),
animal VARCHAR(15));
INSERT INTO
       Hamsters (Name, Type, BirthDate, Commands, animal)
VALUES
       ("buddy", "hamster", "2020-03-01", "Roll, Hide", "hamsters"),
       ("piskun", "hamster", "2021-02-03", "Roll, Hide", "hamsters"),
       ("hams", "hamster", "2022-05-04", "Roll, Hide", "hamsters"),
       ("bud", "hamster", "2023-06-05", "Roll, Hide", "hamsters");
DROP TABLE IF EXISTS Horses;
CREATE TABLE Horses (
ID INT PRIMARY KEY AUTO INCREMENT,
Name VARCHAR(15),
Type VARCHAR(15),
BirthDate Date,
Commands VARCHAR(30),
animal VARCHAR(15));
INSERT INTO
       Horses (Name, Type, BirthDate, Commands, animal)
VALUES
       ("bisriy", "horse", "2020-05-06", "Trot, Canter, Gallop", "horses"),
       ("seriy", "horse", "2020-05-06", "Trot, Canter, Gallop", "horses"),
       ("start", "horse", "2020-05-06", "Trot, Canter, Gallop", "horses"),
       ("strela", "horse", "2022-07-08", "Trot, Canter, Gallop", "horses");
```

```
DROP TABLE IF EXISTS Camels;
CREATE TABLE Camels (
ID INT PRIMARY KEY AUTO INCREMENT,
Name VARCHAR(15),
Type VARCHAR(15),
BirthDate Date,
Commands VARCHAR(30),
animal VARCHAR(15));
INSERT INTO
      Camels (Name, Type, BirthDate, Commands, animal)
VALUES
      ("sunny", "camel", "2019-01-07", "Walk, Carry Load", "camels"),
      ("winny", "camel", "2018-05-07", "Walk, Carry Load", "camels"),
      ("dori", "camel", "2020-06-17", "Walk, Carry Load", "camels"),
      ("cam", "camel", "2019-08-05", "Walk, Carry Load", "camels");
DROP TABLE IF EXISTS Donkeys;
CREATE TABLE Donkeys (
ID INT PRIMARY KEY AUTO INCREMENT,
Name VARCHAR(15),
Type VARCHAR(15),
BirthDate Date.
Commands VARCHAR(30),
animal VARCHAR(15));
INSERT INTO
      Donkeys (Name, Type, BirthDate, Commands, animal)
VALUES
      ("ia", "donkey", "2018-07-04", "Walk, Carry Load, Bray", "donkeys"),
      ("ishak", "donkey", "2020-10-01", "Walk, Carry Load, Bray", "donkeys"),
      ("dolgiy", "donkey", "2022-05-20", "Walk, Carry Load, Bray", "donkeys"),
      ("grust", "donkey", "2019-04-05", "Walk, Carry Load, Bray", "donkeys");
-- Задачи 10-11-12
-- task 10
DELETE FROM Camels WHERE id > 0;
SELECT * FROM Camels;
-- далее все таблицы без верблюдов, т.к. они перехалиали
DROP TABLE IF EXISTS New Pack Animals;
CREATE TABLE New Pack Animals AS
(SELECT * FROM Horses
UNION
SELECT * FROM Donkeys);
```

```
SELECT * FROM New_Pack_Animals;

-- task 12

DROP TABLE IF EXISTS All_Animals;

CREATE TABLE All_Animals AS

(SELECT * FROM Cats

UNION

SELECT * FROM Dogs

UNION

SELECT * FROM Hamsters

UNION

SELECT * FROM Horses

UNION

SELECT * FROM Camels

UNION

SELECT * FROM Camels

UNION

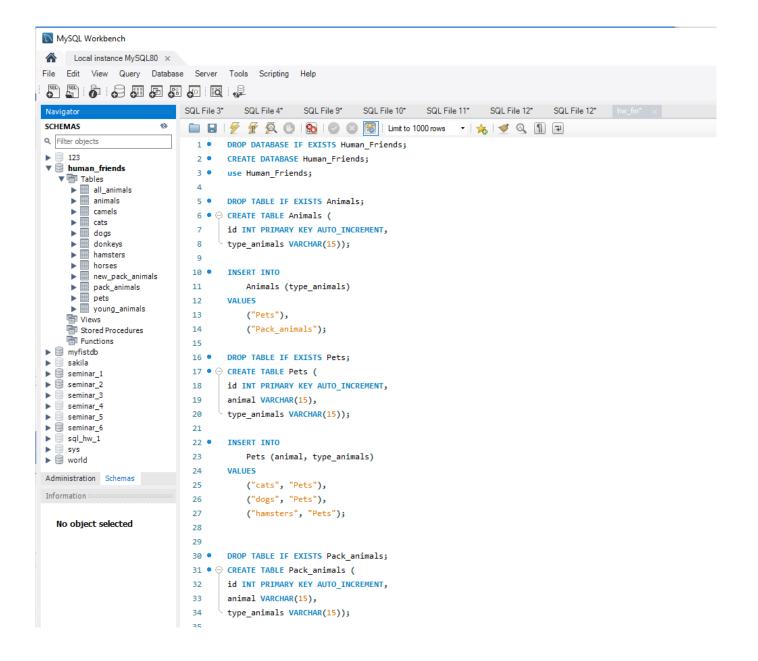
SELECT * FROM Donkeys);

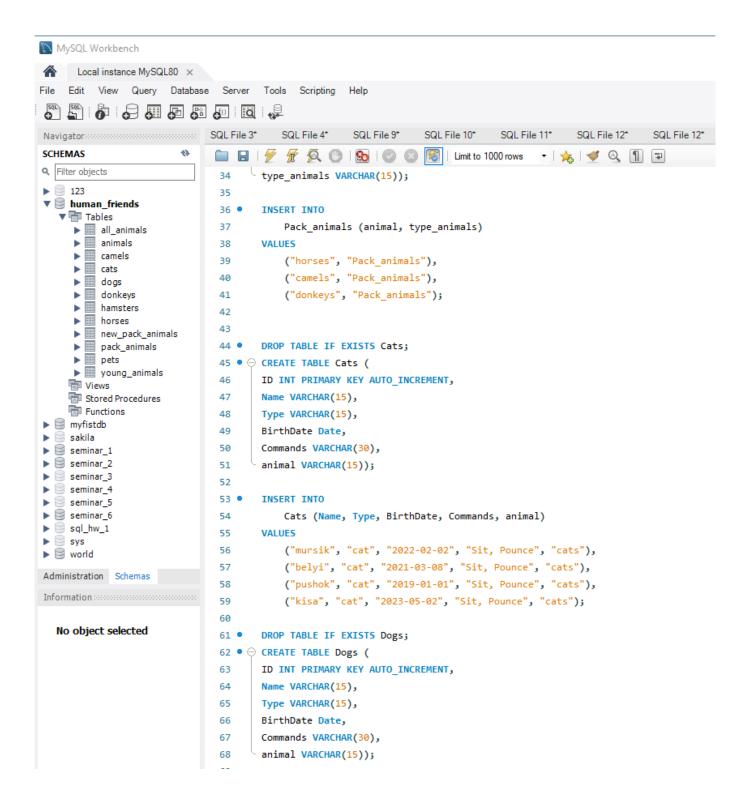
SELECT * FROM All_Animals;
```

-- task11 11 делал после 10 (т.е. на основе сводной таблицы по всем животным)
DROP TABLE IF EXISTS young\_animals;
CREATE TABLE young\_animals AS
(WITH age as (SELECT id, Name, Type, BirthDate, Commands, TIMESTAMPDIFF(MONTH, BirthDate, CURRENT\_DATE()) AS age\_in\_month FROM All\_Animals)
SELECT \* FROM age WHERE age\_in\_month BETWEEN 12 and 36);

SELECT \* FROM young\_animals;

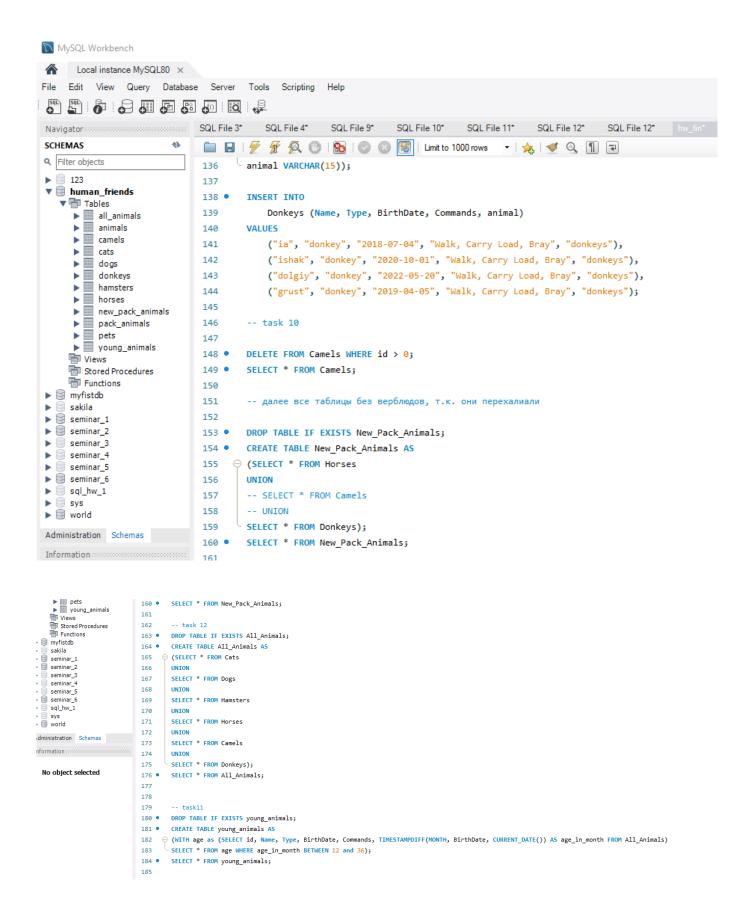
Дополнительно Скрины прикладываю.





```
MvSOL Workbench
 Local instance MySQL80 ×
File Edit View Query Database Server Tools Scripting Help
 SQL File 3* SQL File 4* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 12* Inv_fin*
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Q Filter objects
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                                                                               Name VARCHAR(15),
 ▶ ■ 123
                                                                              Type VARCHAR(15),
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  ▼ 🗐 human_friends
                                                               66
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       ▼ 📅 Tables
                                                               67
                                                                             Commands VARCHAR(30),
           ▶ ■ all_animals
           ▶ ■ animals
                                                               68
                                                                           animal VARCHAR(15));
            ▶ 🔳 camels
                                                               69
           ▶ 🔳 cats
                                                               70 • INSERT INTO
           ▶ ■ dogs▶ ■ donkeys
                                                               71
                                                                                     Dogs (Name, Type, BirthDate, Commands, animal)
           ▶ hamsters
                                                               72
                                                                             VALUES
            ▶ horses
                                                                                    ("tobik", "dog", "2020-08-03", "Sit, Paw, Bark", "dogs"),
                                                               73
           ▶ ■ new_pack_animals
            ▶ pack_animals
                                                               74
                                                                                    ("bobik", "dog", "2022-01-03", "Sit, Paw, Bark", "dogs"),
           ▶ ■ pets
                                                                                  ("belka", "dog", "2022-10-03", "Sit, Paw, Bark", "dogs"),
                                                               75
            young_animals
                                                                                     ("tusik", "dog", "2021-12-04", "Sit, Paw, Bark", "dogs");
                                                               76
           🖶 Views
                                                               77
           Stored Procedures
           Functions
                                                               78 •
                                                                          DROP TABLE IF EXISTS Hamsters;
 ▶ ■ myfistdb
                                                               79 ● ⊖ CREATE TABLE Hamsters (
 ▶ ■ sakila
 seminar 1
                                                               80
                                                                             ID INT PRIMARY KEY AUTO_INCREMENT,
 ▶ ■ seminar_2
                                                                             Name VARCHAR(15),
                                                               81
        seminar_3
                                                                             Type VARCHAR(15),
                                                               82
       seminar_4
                                                               83
                                                                             BirthDate Date,
          seminar_5
 ▶ 🗐 seminar_6
                                                               84
                                                                             Commands VARCHAR(30),
 sql_hw_1
                                                               85
                                                                            animal VARCHAR(15));
                                                               86
 ▶ 🗐 world
                                                               87 •
                                                                            INSERT INTO
 Administration Schemas
                                                               88
                                                                                     Hamsters (Name, Type, BirthDate, Commands, animal)
 Information
                                                               89
                                                                                     ("buddy", "hamster", "2020-03-01", "Roll, Hide", "hamsters"),
                                                               90
      No object selected
                                                                                      ("piskun", "hamster", "2021-02-03", "Roll, Hide", "hamsters"),
                                                               91
                                                                                     ("hams", "hamster", "2022-05-04", "Roll, Hide", "hamsters"),
                                                               92
                                                               93
                                                                                     ("bud", "hamster", "2023-06-05", "Roll, Hide", "hamsters");
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                                                               95 •
                                                                             DROP TABLE IF EXISTS Horses;
                                                               96 ● ⊖ CREATE TABLE Horses (
                                                                              ID INT PRIMARY KEY AUTO_INCREMENT,
                                                               97
                                                                              Name VARCHAR(15),
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                                                               99
                                                                              Type VARCHAR(15),
                                                             100
                                                                              BirthDate Date,
                                                            <
```

```
MvSQL Workbench
File Edit View Query Database Server Tools Scripting Help
SQL File 4* SQL File 9* SQL File 10* SQL File 11* SQL File 12* SQL File 12* hw_fin
                             SQL File 3*
Navigator:
SCHEMAS
                        43
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Q Filter objects
                                     BirthDate Date,
  123
                                     Commands VARCHAR(30),
                             101
▼ 🗐 human_friends
                             102
                                     animal VARCHAR(15));
   ▼ 📅 Tables
                             103
     ▶ ■ all_animals
     ▶ animals
                             104 •
                                   INSERT INTO
     ▶  amels
                             105
                                         Horses (Name, Type, BirthDate, Commands, animal)
     ▶ ■ cats
                             106
                                     VALUES
     ▶ ■ dogs▶ ■ donkeys
                                        ("bisriy", "horse", "2020-05-06", "Trot, Canter, Gallop", "horses"),
                             107
     ▶ ■ hamsters
                                         ("seriy", "horse", "2020-05-06", "Trot, Canter, Gallop", "horses"),
                             108
     ▶ I horses
                                         ("start", "horse", "2020-05-06", "Trot, Canter, Gallop", "horses"),
                             109
     new_pack_animals
                                         ("strela", "horse", "2022-07-08", "Trot, Canter, Gallop", "horses");
                             110
     ▶ ■ pack_animals
     ▶ pets
                             111
     ▶ young_animals
                             112 • DROP TABLE IF EXISTS Camels;
     Views
     stored Procedures
                             113 • ○ CREATE TABLE Camels (
     Functions
                             114
                                     ID INT PRIMARY KEY AUTO INCREMENT,
▶ ■ myfistdb
                             115
                                     Name VARCHAR(15),
  sakila 🗎
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                                     Type VARCHAR(15),
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  seminar_2
                             117
                                     BirthDate Date
   seminar_3
                                     Commands VARCHAR(30),
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   seminar 4
                                     animal VARCHAR(15));
                             119
   seminar 5
▶ ■ seminar 6
                             120
•
  gql_hw_1
                             121 •
                                     INSERT INTO
    SYS
                             122
                                         Camels (Name, Type, BirthDate, Commands, animal)
▶ ■ world
                             123
                                     VALUES
Administration Schemas
                             124
                                         ("sunny", "camel", "2019-01-07", "Walk, Carry Load", "camels"),
Information ::
                             125
                                         ("winny", "camel", "2018-05-07", "Walk, Carry Load", "camels"),
                                          ("dori", "camel", "2020-06-17", "Walk, Carry Load", "camels"),
                             126
   No object selected
                                          ("cam", "camel", "2019-08-05", "Walk, Carry Load", "camels");
                             127
                             128
                                     DROP TABLE IF EXISTS Donkeys;
                             129 •
                             130 • ⊖ CREATE TABLE Donkeys (
                                     ID INT PRIMARY KEY AUTO INCREMENT,
                             131
                                     Name VARCHAR(15),
                             132
                                     Type VARCHAR(15),
                             133
                             134
                                     BirthDate Date,
                             135
                                     Commands VARCHAR(30),
                             136
                                     animal VARCHAR(15));
```



```
178
  179
         -- task11
  180 • DROP TABLE IF EXISTS young_animals;
  181 • CREATE TABLE young_animals AS
 184 • SELECT * FROM young_animals;
  185
 <
 Export: Wrap Cell Content: TA
           Name Type
     id
                            BirthDate
                                        Commands
                                                             age_in_month
                            2022-02-02
                                        Sit, Pounce
           mursik cat
                                                             22
    2 belyi cat
                           2021-03-08 Sit, Pounce
                                                          33
   2 belyl cat 2021-03-08 Sit, Pounce 33
2 bobik dog 2022-01-03 Sit, Paw, Bark 23
3 belka dog 2022-10-03 Sit, Paw, Bark 14
4 tusik dog 2021-12-04 Sit, Paw, Bark 24
2 piskun hamster 2021-02-03 Roll, Hide 34
3 hams hamster 2022-05-04 Roll, Hide 19
4 strela horse 2022-07-08 Trot, Canter, Gallop 17
3 dolgiy donkey 2022-05-20 Walk, Carry Load, Bray 19
```