



МИНОБРНАУКИ РОССИИ

Федеральное государственное бюджетное образовательное учреждение
высшего образования

«МИРЭА – Российский технологический университет»

РТУ МИРЭА

Институт информационных технологий (ИИТ)
Кафедра практической и прикладной информатики (ППИ)

ОТЧЕТ ПО ПРАКТИЧЕСКОЙ РАБОТЕ
по дисциплине «Разработка баз данных»

Практическое задание № 1

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Отчёт

Цель: создание базы данных и таблицы в ней по теме «Каршеринг», на основе разработанных моделей.

Результат работы:

Разработанная модель в нотации IDEF1X представлена на рисунке 1.

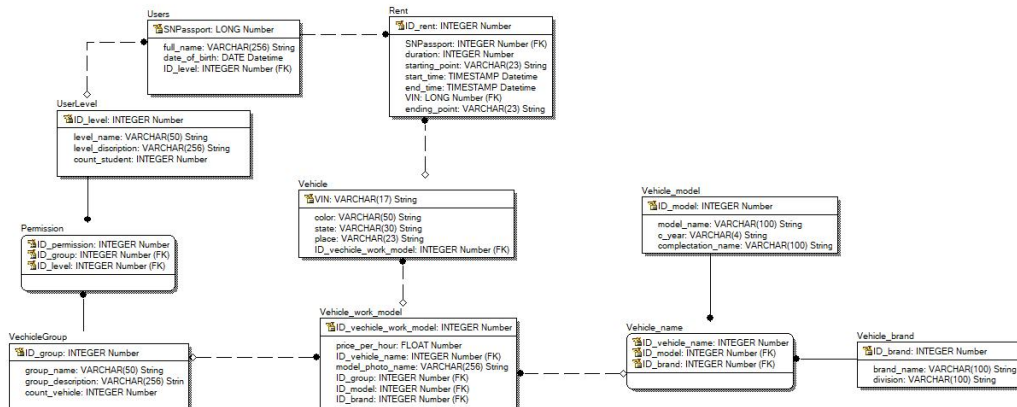


Рисунок 1 – Разработанная модель в нотации IDEF1X

Для реализации базы данных использовалась СУБД MySQL. Все последующие команды были выполнены в MySQL command line. С помощью команд была создана база данных “carsharing” и таблицы в ней, процесс создания представлен на рисунках 2-6.

```

mysql> CREATE DATABASE IF NOT EXISTS carsharing;
Query OK, 1 row affected (0.01 sec)

mysql> USE carsharing;
Database changed
mysql> CREATE TABLE IF NOT EXISTS users(
  ->     snpassport BIGINT PRIMARY KEY,
  ->     full_name VARCHAR(256),
  ->     date_of_birth DATE NOT NULL,
  ->     id_level INT NOT NULL
  -> );
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE IF NOT EXISTS user_level(
  ->     id_level INT AUTO_INCREMENT PRIMARY KEY,
  ->     level_name VARCHAR(50),
  ->     level_discription VARCHAR(256),
  ->     count_users INTEGER NOT NULL
  -> );
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> ALTER TABLE users ADD FOREIGN KEY (id_level) REFERENCES user_level(id_level);
Query OK, 0 rows affected (0.06 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql>
mysql> CREATE TABLE IF NOT EXISTS vehicle_group(
  ->     id_group INT AUTO_INCREMENT PRIMARY KEY,
  ->     group_name VARCHAR(50),
  ->     group_description VARCHAR(256),
  ->     count_vehicles INT NOT NULL
  -> );
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> CREATE TABLE IF NOT EXISTS permissions(
  ->     id_permission INT AUTO_INCREMENT,
  ->     id_group INT,
  ->     id_level INT,
  ->     primary key(id_permission, id_group, id_level)
  -> );
Query OK, 0 rows affected (0.02 sec)

```

Рисунок 2 – Создание базы данных и создание части таблиц

```

mysql> ALTER TABLE vehicle_name ADD FOREIGN KEY (id_model) REFERENCES vehicle_model(id_model);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE vehicle_name ADD FOREIGN KEY (id_brand) REFERENCES vehicle_brand(id_brand);
Query OK, 0 rows affected (0.08 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
mysql> CREATE TABLE IF NOT EXISTS vehicle_work_model(
-> id_vehicle_work_model INTEGER AUTO_INCREMENT PRIMARY KEY,
-> price_per_hour FLOAT NOT NULL,
-> id_vehicle_name INT NOT NULL,
-> model_photo_name VARCHAR(256),
-> id_group INT NOT NULL
-> );
Query OK, 0 rows affected (0.03 sec)

mysql>
mysql> ALTER TABLE vehicle_work_model ADD FOREIGN KEY (id_vehicle_name) REFERENCES vehicle_name(id_vehicle_name);
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE vehicle_work_model ADD FOREIGN KEY (id_group) REFERENCES vehicle_group(id_group);
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
mysql> CREATE TABLE IF NOT EXISTS vehicles(
-> vin VARCHAR(17) NOT NULL PRIMARY KEY,
-> color VARCHAR(50),
-> state VARCHAR(30),
-> place VARCHAR(23),
-> id_vehicle_work_model INT
-> );
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> CREATE TABLE IF NOT EXISTS rents(
-> id_rent INT AUTO_INCREMENT PRIMARY KEY,
-> snpassport BIGINT NOT NULL,
-> duration INT,
-> starting_point VARCHAR(23),
-> start_time TIMESTAMP,
-> end_time TIMESTAMP,
-> vin VARCHAR(17) NOT NULL,
-> ending_point VARCHAR(23)
-> );
Query OK, 0 rows affected (0.02 sec)

```

Рисунок 3 – Создание таблиц в базе данных “carsharing”

```

mysql>
mysql> ALTER TABLE rents ADD FOREIGN KEY (snpassport) REFERENCES users(snpassport);
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

```

Рисунок 4 – Добавление внешнего ключа к таблицам базы данных “carsharing”

```

mysql> ALTER TABLE rents ADD FOREIGN KEY (vin) REFERENCES vehicles(vin);
Query OK, 10 rows affected (0.08 sec)
Records: 10 Duplicates: 0 Warnings: 0

```

Рисунок 5 – Добавление внешнего ключа к таблицам базы данных “carsharing”

```

mysql> ALTER TABLE vehicles ADD FOREIGN KEY (id_vehicle_work_model) REFERENCES vehicle_work_model(id_vehicle_work_model);
Query OK, 10 rows affected (0.04 sec)
Records: 10 Duplicates: 0 Warnings: 0

```

Рисунок 6 – Добавление внешнего ключа к таблицам базы данных “carsharing”

Результаты создания таблиц представлены на рисунках 7 – 9.

```

Database changed
mysql> describe user_level
-> ;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| id_level       | int           | NO   | PRI | NULL    | auto_increment |
| level_name     | varchar(50)   | YES  |     | NULL    |                |
| level_discription | varchar(256) | YES  |     | NULL    |                |
| count_users    | int           | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.05 sec)

mysql> describe vehicle_group;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| id_group       | int           | NO   | PRI | NULL    | auto_increment |
| group_name     | varchar(50)   | YES  |     | NULL    |                |
| group_description | varchar(256) | YES  |     | NULL    |                |
| count_vehicles | int           | NO   |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> describe permissions;
+-----+-----+-----+-----+-----+-----+
| Field          | Type | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| id_permission | int  | NO   | PRI | NULL    | auto_increment |
| id_group      | int  | NO   | PRI | NULL    |                |
| id_level      | int  | NO   | PRI | NULL    |                |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> describe users
-> ;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| snpassport     | bigint        | NO   | PRI | NULL    |                |
| full_name     | varchar(256)  | YES  |     | NULL    |                |
| date_of_birth | date          | NO   |     | NULL    |                |
| id_level      | int           | NO   | MUL | NULL    |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

Рисунок 6 – Структура некоторых таблиц базы данных “carsharing”

```
mysql> describe rents;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| id_rent    | int       | NO   | PRI | NULL    | auto_increment |
| snpassport  | bigint    | NO   | MUL | NULL    |               |
| duration    | int       | YES  |     | NULL    |               |
| starting_point | varchar(23) | YES  |     | NULL    |               |
| start_time  | timestamp | YES  |     | NULL    |               |
| end_time    | timestamp | YES  |     | NULL    |               |
| vin        | varchar(17) | NO   | MUL | NULL    |               |
| ending_point | varchar(23) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> describe vehicles;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| vin        | varchar(17) | NO   | PRI | NULL    |               |
| color      | varchar(50) | YES  |     | NULL    |               |
| state      | varchar(30) | YES  |     | NULL    |               |
| place      | varchar(23) | YES  |     | NULL    |               |
| id_vehicle_work_model | int       | YES  | MUL | NULL    |               |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> describe vehicle_work_model;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| id_vehicle_work_model | int       | NO   | PRI | NULL    | auto_increment |
| price_per_hour | float     | NO   |     | NULL    |               |
| id_vehicle_name | int       | NO   | MUL | NULL    |               |
| model_photo_name | varchar(256) | YES  |     | NULL    |               |
| id_group      | int       | NO   | MUL | NULL    |               |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> describe vehicle_name;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| id_vehicle_name | int       | NO   | PRI | NULL    | auto_increment |
| id_model        | int       | NO   | PRI | NULL    |               |
| id_brand        | int       | NO   | PRI | NULL    |               |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

Рисунок 7 - Структура некоторых таблиц базы данных “carsharing”

```
mysql> describe vehicle_brand;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| id_brand    | int       | NO   | PRI | NULL    | auto_increment |
| brand_name  | varchar(100) | YES  |     | NULL    |               |
| division    | varchar(100) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> describe vehicle_model;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+-----+-----+-----+-----+-----+
| id_model    | int       | NO   | PRI | NULL    | auto_increment |
| model_name  | varchar(100) | YES  |     | NULL    |               |
| c_year      | varchar(4) | YES  |     | NULL    |               |
| complectation_name | varchar(100) | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

Рисунок 8 - Структура некоторых таблиц базы данных “carsharing”

Также с помощью MySQL Workbench была сгенерирована диаграмма по уже созданной базе данных (рис.10).

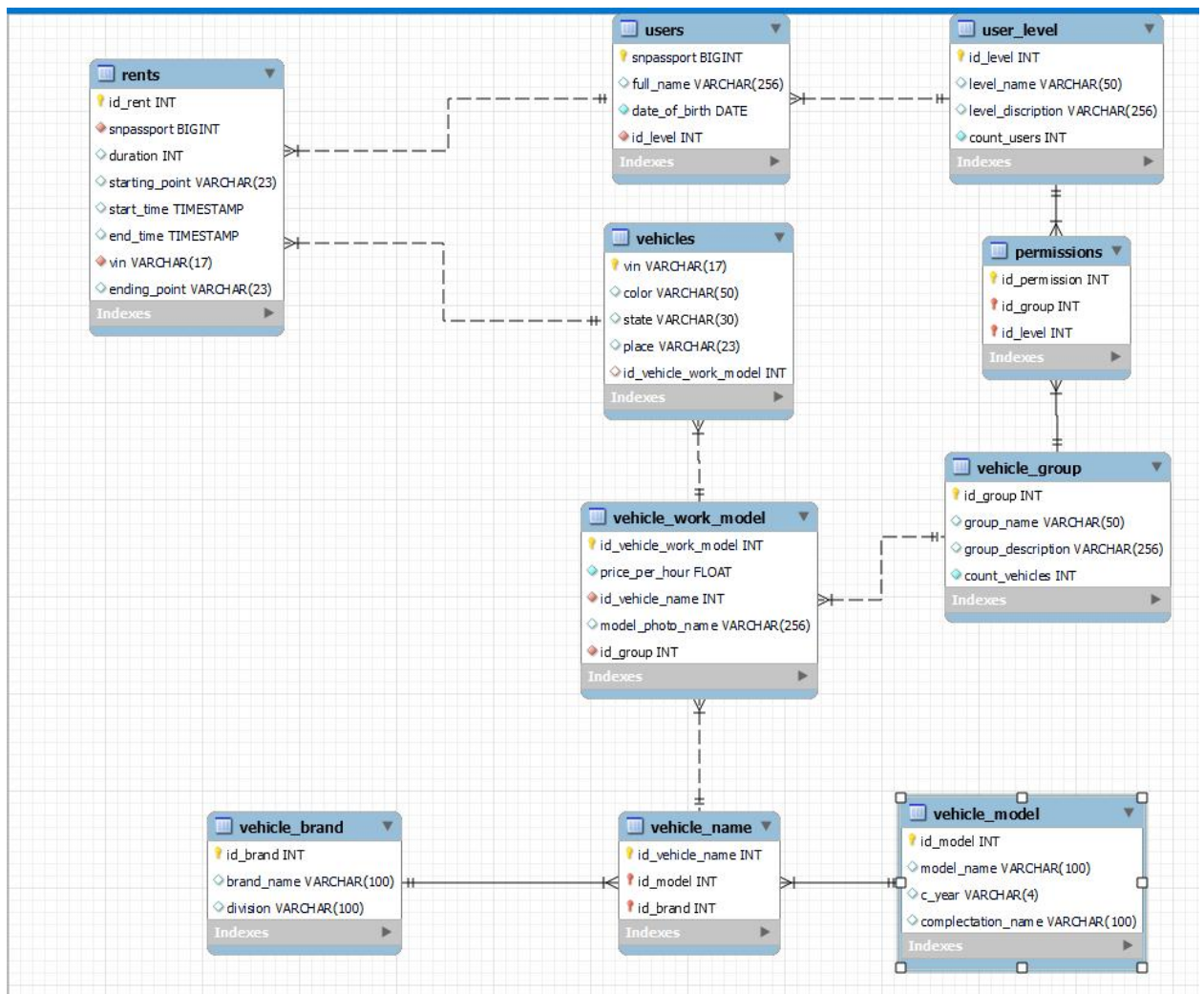


Рисунок 10 – Сгенерированная модель базы данных

Для создания базы данных использовался код представленный в листинге 1.

Листинг 1 – Создание базы данных.

```

CREATE DATABASE IF NOT EXISTS carsharing;
USE carsharing;

CREATE TABLE IF NOT EXISTS users(
    snpassport BIGINT PRIMARY KEY,
    full_name VARCHAR(256),
    date_of_birth DATE NOT NULL,
    id_level INT NOT NULL
);

CREATE TABLE IF NOT EXISTS user_level(
    id_level INT AUTO_INCREMENT PRIMARY KEY,
    level_name VARCHAR(50),
    level_discription VARCHAR(256),
    count_users INTEGER NOT NULL
);

ALTER TABLE users ADD FOREIGN KEY (id_level) REFERENCES user_level(id_level);
  
```

Продолжение листинга 1

```
CREATE TABLE IF NOT EXISTS vehicle_group(  
    id_group INT AUTO_INCREMENT PRIMARY KEY,  
    group_name VARCHAR(50),  
    group_description VARCHAR(256),  
    count_vehicles INT NOT NULL  
);  
  
CREATE TABLE IF NOT EXISTS permissions(  
    id_permission INT AUTO_INCREMENT,  
    id_group INT,  
    id_level INT,  
    primary key(id_permission, id_group, id_level)  
);  
  
ALTER TABLE permissions ADD FOREIGN KEY (id_group) REFERENCES  
user_level(id_level);  
ALTER TABLE permissions ADD FOREIGN KEY (id_level) REFERENCES  
vehicle_group(id_group);  
  
CREATE TABLE IF NOT EXISTS vehicle_model(  
    id_model INTEGER AUTO_INCREMENT PRIMARY KEY,  
    model_name VARCHAR(100),  
    c_year VARCHAR(4),  
    complectation_name VARCHAR(100)  
);  
  
CREATE TABLE IF NOT EXISTS vehicle_brand(  
    id_brand INTEGER AUTO_INCREMENT PRIMARY KEY,  
    brand_name VARCHAR(100),  
    division VARCHAR(100)  
);  
  
CREATE TABLE IF NOT EXISTS vehicle_name(  
    id_vehicle_name INTEGER AUTO_INCREMENT,  
    id_model INT,  
    id_brand INT,  
    PRIMARY KEY (id_vehicle_name, id_model, id_brand)  
);  
  
ALTER TABLE vehicle_name ADD FOREIGN KEY (id_model) REFERENCES  
vehicle_model(id_model);  
ALTER TABLE vehicle_name ADD FOREIGN KEY (id_brand) REFERENCES  
vehicle_brand(id_brand);  
  
CREATE TABLE IF NOT EXISTS vehicle_work_model(  
    id_vehicle_work_model INTEGER AUTO_INCREMENT PRIMARY KEY,  
    price_per_hour FLOAT NOT NULL,  
    id_vehicle_name INT NOT NULL,  
    model_photo_name VARCHAR(256),
```


Продолжение листинга 1

```
id_group INT NOT NULL
);

ALTER TABLE vehicle_work_model ADD FOREIGN KEY (id_vehicle_name) REFERENCES
vehicle_name(id_vehicle_name);
ALTER TABLE vehicle_work_model ADD FOREIGN KEY (id_group) REFERENCES
vehicle_group(id_group);

CREATE TABLE IF NOT EXISTS vehicles(
    vin VARCHAR(17) NOT NULL PRIMARY KEY,
    color VARCHAR(50),
    state VARCHAR(30),
    place VARCHAR(23),
    id_vehicle_work_model INT
);

CREATE TABLE IF NOT EXISTS rents(
    id_rent INT AUTO_INCREMENT PRIMARY KEY,
    snpassport BIGINT NOT NULL,
    duration INT,
    starting_point VARCHAR(23),
    start_time TIMESTAMP,
    end_time TIMESTAMP,
    vin VARCHAR(17) NOT NULL,
    ending_point VARCHAR(23)
);

ALTER TABLE rents ADD FOREIGN KEY (snpassport) REFERENCES users(snpassport);
ALTER TABLE rents ADD FOREIGN KEY (vin) REFERENCES vehicles(vin);
ALTER TABLE vahicles ADD FOREIGN KEY (id_vehicle_work_model) REFERENCES
vehicle_work_model(id_vehicle_work_model);
```

После создания базы данных было произведено заполнение полей базы с помощью команды INSERT, процесс представлен на рисунках 11 – 20.

```

mysql>
mysql> INSERT INTO permissions (id_group, id_level) VALUES(1, 1);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(2, 2);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(3, 3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(4, 4);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(5, 5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(6, 6);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(7, 7);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(8, 8);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(9, 9);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO permissions (id_group, id_level) VALUES(10, 10);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 11 – Заполнение таблицы “permissions”

```

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598304,"ABCDEFHGHIJKLMNOP1", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598305,"ABCDEFHGHIJKLMNOP02", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598306,"ABCDEFHGHIJKLMNOP03", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598307,"ABCDEFHGHIJKLMNOP04", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598308,"ABCDEFHGHIJKLMNOP05", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598309,"ABCDEFHGHIJKLMNOP06", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598310,"ABCDEFHGHIJKLMNOP07", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598311,"ABCDEFHGHIJKLMNOP08", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598312,"ABCDEFHGHIJKLMNOP09", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point, start_time, end_time)
-> VALUES(1718598313,"ABCDEFHGHIJKLMNOP10", 0, "56,08,00;40,25,00", "56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
Query OK, 1 row affected (0.01 sec)

```

Рисунок 12 – Заполнение таблицы “rents”

```

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("first level", "basic", 0);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("second level", "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("third level", "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("fourth level", "middle", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("fifth level", "middle", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("six level", "middle", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("seven level", "middle", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("eight level", "top", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("nine level", "top", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO user_level (level_name, level_discription, count_users) VALUES("ten level", "top", 0);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 13 – Заполнение таблицы “user_level”

```

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598304, "Stas", "2004-06-03", 1);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598305, "Roma", "1998-08-05", 2);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598306, "Vlad", "1995-05-26", 3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598307, "Anton", "1999-06-13", 4);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598308, "Petya", "2002-04-13", 5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598309, "Dima", "2014-04-03", 6);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598310, "Viktor", "2001-06-01", 7);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598311, "Egor", "2002-03-03", 8);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598312, "Nikita", "2003-05-03", 9);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO users (snpassport, full_name, date_of_birth, id_level) VALUES(1718598313, "Lexa", "2003-06-03", 10);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 14 – Заполнение таблицы “users”

```

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN001", "red", "inactive", "56,08,00;40,25,00", 1);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN002", "green", "inactive", "56,08,00;40,25,00", 2);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN003", "black", "inactive", "56,08,00;40,25,00", 3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN004", "blue", "inactive", "56,08,00;40,25,00", 4);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN005", "blue", "inactive", "56,08,00;40,25,00", 5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN006", "black", "inactive", "56,08,00;40,25,00", 6);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN007", "green", "inactive", "56,08,00;40,25,00", 7);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN008", "red", "inactive", "56,08,00;40,25,00", 8);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN009", "green", "inactive", "56,08,00;40,25,00", 9);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model) VALUES("ABCDEFGHIJKLMN010", "blakc", "inactive", "56,08,00;40,25,00", 10);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 15 – Заполнение таблицы “vehicles”

```

mysql>
mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Toyota", "Russia");
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Mercedes", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Honda", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Hundai", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Mitsubishi", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Daewoo", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Cherry", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("BMW", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Wolkswagen", "Russia");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_brand (brand_name, division) VALUES("Lada", "Russia");
Query OK, 1 row affected (0.00 sec)

```

Рисунок 16 – Заполнение таблицы “vehicle_brand”

```

mysql>
mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Mark II", "2000", "Full");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("e200", "2001", "Min");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("CR-V", "2004", "Full");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Gets", "2010", "Middle");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Lancer evo", "2008", "Sport");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Matiz", "2011", "Min");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Q5", "2021", "Min");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("m5", "2022", "Full");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Tiguan", "2018", "Full");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Kalina", "2006", "Top");
Query OK, 1 row affected (0.00 sec)

```

Рисунок 17 – Заполнение таблицы “vehicle_model”

```

mysql>
mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(1, 1);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(2, 2);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(3, 3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(4, 4);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(5, 5);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(6, 6);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(7, 7);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(8, 8);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(9, 9);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_name (id_model, id_brand) VALUES(10, 10);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 18 – Заполнение таблицы ‘vehicle_name’

```

mysql>
mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(20.0, 1, "toymarkii2000", 1);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(25.5, 1, "mere2002001", 2);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(30.0, 1, "honcrv2004", 3);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(35.5, 1, "hungets2010", 4);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(40.0, 1, "mitlancerevo2008", 5);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(45.5, 1, "daematiz2011", 6);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(50.0, 1, "cherq52021", 7);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(55.5, 1, "bmwm52022", 8);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(60.0, 1, "woltiguan2018", 9);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(65.5, 1, "ladakalina2006", 10);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 19 – Заполнение таблицы “vehicle work model”

```

mysql>
mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("first group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("second group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("third group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("fourth group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("fifth group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("six group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("seven group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("eight group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("nine group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO vehicle_group (group_name, group_description, count_vehicles) VALUES("ten group" , "basic", 0);
Query OK, 1 row affected (0.00 sec)

```

Рисунок 20 – Заполнение таблицы “vehicle_group”

Результат заполнения представлен на рисунках 21 – 24.

```
mysql> select * from user_level;
```

id_level	level_name	level_discription	count_users
1	first level	basic	0
2	second level	basic	0
3	third level	basic	0
4	fourth level	middle	0
5	fifth level	middle	0
6	six level	middle	0
7	seven level	middle	0
8	eight level	top	0
9	nine level	top	0
10	ten level	top	0

```
10 rows in set (0.00 sec)
```



```
mysql> select * from vehicle_group;
```

id_group	group_name	group_description	count_vehicles
1	first group	basic	0
2	second group	basic	0
3	third group	basic	0
4	fourth group	basic	0
5	fifth group	basic	0
6	six group	basic	0
7	seven group	basic	0
8	eight group	basic	0
9	nine group	basic	0
10	ten group	basic	0

```
10 rows in set (0.00 sec)
```

Рисунок 21 – Содержимое части таблиц

```
mysql> select * from permissions;
```

id_permission	id_group	id_level
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10

```
10 rows in set (0.00 sec)
```



```
mysql> select * from users
-> ;
```

snpassport	full_name	date_of_birth	id_level
1718598304	Stas	2004-06-03	1
1718598305	Roma	1998-08-05	2
1718598306	Vlad	1995-05-26	3
1718598307	Anton	1999-06-13	4
1718598308	Petya	2002-04-13	5
1718598309	Anton	2014-04-03	6
1718598310	Viktor	2001-06-01	7
1718598311	Egor	2002-03-03	8
1718598312	Nikita	2003-05-03	9
1718598313	Lexa	2003-06-03	10

```
10 rows in set (0.00 sec)
```

Рисунок 22 – Содержимое части таблиц

```
mysql> describe rents;
```

Field	Type	Null	Key	Default	Extra
id_rent	int	NO	PRI	NULL	auto_increment
snpassport	bigint	NO	MUL	NULL	
duration	int	YES		NULL	
starting_point	varchar(23)	YES		NULL	
start_time	timestamp	YES		NULL	
end_time	timestamp	YES		NULL	
vin	varchar(17)	NO	MUL	NULL	
ending_point	varchar(23)	YES		NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> describe vehicles;
```

Field	Type	Null	Key	Default	Extra
vin	varchar(17)	NO	PRI	NULL	
color	varchar(50)	YES		NULL	
state	varchar(30)	YES		NULL	
place	varchar(23)	YES		NULL	
id_vehicle_work_model	int	YES	MUL	NULL	

```
5 rows in set (0.00 sec)
```

```
mysql> describe vehicle_work_model;
```

Field	Type	Null	Key	Default	Extra
id_vehicle_work_model	int	NO	PRI	NULL	auto_increment
price_per_hour	float	NO		NULL	
id_vehicle_name	int	NO	MUL	NULL	
model_photo_name	varchar(256)	YES		NULL	
id_group	int	NO	MUL	NULL	

```
5 rows in set (0.00 sec)
```

```
mysql> describe vehicle_name;
```

Field	Type	Null	Key	Default	Extra
id_vehicle_name	int	NO	PRI	NULL	auto_increment
id_model	int	NO	PRI	NULL	
id_brand	int	NO	PRI	NULL	

```
3 rows in set (0.00 sec)
```

Рисунок 23 – Содержимое части таблиц


```
mysql> select * from vehicle_name;
+-----+-----+-----+
| id_vehicle_name | id_model | id_brand |
+-----+-----+-----+
| 1 | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |
| 4 | 4 | 4 |
| 5 | 5 | 5 |
| 6 | 6 | 6 |
| 7 | 7 | 7 |
| 8 | 8 | 8 |
| 9 | 9 | 9 |
| 10 | 10 | 10 |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from vehicle_brand;
+-----+-----+-----+
| id_brand | brand_name | division |
+-----+-----+-----+
| 1 | Toyota | Russia |
| 2 | Mercedes | Russia |
| 3 | Honda | Russia |
| 4 | Hundai | Russia |
| 5 | Mitsubishi | Russia |
| 6 | Daewoo | Russia |
| 7 | Cherry | Russia |
| 8 | BMW | Russia |
| 9 | Wolkswagen | Russia |
| 10 | Lada | Russia |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from vehicle_model;
+-----+-----+-----+-----+
| id_model | model_name | c_year | complectation_name |
+-----+-----+-----+-----+
| 1 | Mark II | 2000 | Full |
| 2 | e200 | 2001 | Min |
| 3 | CR-V | 2004 | Full |
| 4 | Gets | 2010 | Middle |
| 5 | Lancer evo | 2008 | Sport |
| 6 | Matiz | 2011 | Min |
| 7 | Q5 | 2021 | Min |
| 8 | m5 | 2022 | Full |
| 9 | Tiguan | 2018 | Full |
| 10 | Kalina | 2006 | Top |
+-----+-----+-----+-----+
```

Рисунок 24 – Содержимое части таблиц

Для заполнения таблиц использовался код, представленный в листинге

2.

Листинг 2 – Код заполнения таблиц базы данных.

```
USE carsharing;

INSERT INTO user_level (level_name, level_discription, count_users) VALUES("first
level", "basic", 0);
INSERT INTO user_level (level_name, level_discription, count_users)
VALUES("second level", "basic", 0);
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("third
level", "basic", 0);
INSERT INTO user_level (level_name, level_discription, count_users)
VALUES("fourth level", "middle", 0);
```

Продолжение листинга 2.

```
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("fifth
level", "middle", 0);
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("six
level", "middle", 0);
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("seven
level", "middle", 0);
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("eight
level", "top", 0);
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("nine
level", "top", 0);
INSERT INTO user_level (level_name, level_discription, count_users) VALUES("ten
level", "top", 0);

INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("first group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("second group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("third group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("fourth group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("fifth group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("six group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("seven group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("eight group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("nine group" , "basic", 0);
INSERT INTO vehicle_group (group_name, group_description, count_vehicles)
VALUES("ten group" , "basic", 0);

INSERT INTO permissions (id_group, id_level) VALUES(1, 1);
INSERT INTO permissions (id_group, id_level) VALUES(2, 2);
INSERT INTO permissions (id_group, id_level) VALUES(3, 3);
INSERT INTO permissions (id_group, id_level) VALUES(4, 4);
INSERT INTO permissions (id_group, id_level) VALUES(5, 5);
INSERT INTO permissions (id_group, id_level) VALUES(6, 6);
INSERT INTO permissions (id_group, id_level) VALUES(7, 7);
INSERT INTO permissions (id_group, id_level) VALUES(8, 8);
INSERT INTO permissions (id_group, id_level) VALUES(9, 9);
INSERT INTO permissions (id_group, id_level) VALUES(10, 10);

INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Mark
II", "2000", "Full");
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("e200",
"2001", "Min");
```

Продолжение листинга 2.

```
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("CR-V",
"2004", "Full");
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Gets",
"2010", "Middle");
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Lancer
evo", "2008", "Sport");
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Matiz",
"2011", "Min");
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("Q5",
"2021", "Min");
INSERT INTO vehicle_model (model_name, c_year, complectation_name) VALUES("m5",
"2022", "Full");
INSERT INTO vehicle_model (model_name, c_year, complectation_name)
VALUES("Tiguan", "2018", "Full");
INSERT INTO vehicle_model (model_name, c_year, complectation_name)
VALUES("Kalina", "2006", "Top");

INSERT INTO vehicle_brand (brand_name, division) VALUES("Toyota", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Mercedes", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Honda", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Hundai", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Mitsubishi", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Daewoo", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Cherry", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("BMW", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Wolkswagen", "Russia");
INSERT INTO vehicle_brand (brand_name, division) VALUES("Lada", "Russia");

INSERT INTO vehicle_name (id_model, id_brand) VALUES(1, 1);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(2, 2);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(3, 3);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(4, 4);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(5, 5);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(6, 6);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(7, 7);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(8, 8);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(9, 9);
INSERT INTO vehicle_name (id_model, id_brand) VALUES(10, 10);

INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name,
id_group) VALUES(20.0, 1, "toymarkii2000", 1);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name,
id_group) VALUES(25.5, 1, "mere2002001", 2);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name,
id_group) VALUES(30.0, 1, "honcrv2004", 3);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name,
id_group) VALUES(35.5, 1, "hungets2010", 4);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name,
id_group) VALUES(40.0, 1, "mitlancerevo2008", 5);
```

Продолжение листинга 2.

```
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(45.5, 1, "daematiz2011", 6);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(50.0, 1, "cherq52021", 7);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(55.5, 1, "bmwm52022", 8);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(60.0, 1, "woltiguan2018", 9);
INSERT INTO vehicle_work_model (price_per_hour, id_vehicle_name, model_photo_name, id_group) VALUES(65.5, 1, "ladakalina2006", 10);
```

```
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO01", "red", "inactive", "56,08,00;40,25,00", 1);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO02", "green", "inactive", "56,08,00;40,25,00", 2);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO03", "black", "inactive", "56,08,00;40,25,00", 3);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO04", "blue", "inactive", "56,08,00;40,25,00", 4);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO05", "blue", "inactive", "56,08,00;40,25,00", 5);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO06", "black", "inactive", "56,08,00;40,25,00", 6);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO07", "green", "inactive", "56,08,00;40,25,00", 7);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO08", "red", "inactive", "56,08,00;40,25,00", 8);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO09", "green", "inactive", "56,08,00;40,25,00", 9);
INSERT INTO vehicles (vin, color, state, place, id_vehicle_work_model)
VALUES("ABCDEFGHIIJKLMNO10", "blakc", "inactive", "56,08,00;40,25,00", 10);
```

```
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598304, "Stas", "2004-06-03", 1);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598305, "Roma", "1998-08-05", 2);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598306, "Vlad", "1995-05-26", 3);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598307, "Anton", "1999-06-13", 4);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598308, "Petya", "2002-04-13", 5);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598309, "Dima", "2014-04-03", 6);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598310, "Viktor", "2001-06-01", 7);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598311, "Egor", "2002-03-03", 8);
```

Продолжение листинга 2.

```
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598312, "Nikita", "2003-05-03", 9);
INSERT INTO users (snpassport, full_name, date_of_birth, id_level)
VALUES(1718598313, "Lexa", "2003-06-03", 10);

INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598304,"ABCDEFGHIJKLMN001", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598305,"ABCDEFGHIJKLMN002", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598306,"ABCDEFGHIJKLMN003", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598307,"ABCDEFGHIJKLMN004", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598308,"ABCDEFGHIJKLMN005", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598309,"ABCDEFGHIJKLMN006", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598310,"ABCDEFGHIJKLMN007", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598311,"ABCDEFGHIJKLMN008", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598312,"ABCDEFGHIJKLMN009", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
INSERT INTO rents (snpassport, vin, duration, starting_point, ending_point,
start_time, end_time)
VALUES(1718598313,"ABCDEFGHIJKLMN010", 0, "56,08,00;40,25,00",
"56,08,00;40,25,00", "2023-09-19 09:00:00", "2023-09-19 09:00:00");
```

Итоговый список таблиц представлен на рисунке 25.

```
mysql> show tables;
+-----+
| Tables_in_carsharing |
+-----+
| permissions          |
| rents                 |
| user_level            |
| users                 |
| vehicle_brand         |
| vehicle_group         |
| vehicle_model         |
| vehicle_name          |
| vehicle_work_model    |
| vehicles              |
+-----+
```

Рисунок 25 – Итоговый список таблиц

Вывод:

В результате данной практической работы была создана база данных, а также было произведено наполнение её тестовыми данными.