

Федеральное государственное автономное
образовательное учреждение высшего образования

«Национальный исследовательский университет ИТМО»

Факультет Информационных технологий и программирования

Проектирование баз данных

Лабораторная работа №2.

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Вариант №5.

“Поиск товаров на Яндекс-маркете”

Задачи:

1. На основе спроектированной ER-diagram из 1 лабораторной создать таблицы.
2. Заполнить таблицы данными, минимум по 15 записей в основных таблицах.

File docker-compose.yml:

```
version: '3.9'

services:
  postgres:
    image: postgres:latest
    environment:
      - POSTGRES_USER=postgres
      - POSTGRES_PASSWORD=postgres
      - POSTGRES_DB=postgres
    ports:
      - "6432:5432"
    restart: unless-stopped
```

File init.sql:

```
CREATE TABLE categories
(
  id      uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
  name    text NOT NULL
);

CREATE TABLE products
(
  id          uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
  name        text
              NOT NULL UNIQUE,
  description  text,
  price       numeric
              NOT NULL,
  rating      numeric,
  rating_votes int,
  category_id uuid REFERENCES categories (id) NOT NULL
);

CREATE TABLE product_options
(
  id          uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
  value       text
              NOT NULL,
  product_id  uuid REFERENCES products (id) NOT NULL
);

CREATE TABLE order_units
(
  id          uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
  amount      int,
  product_id  uuid REFERENCES products (id)
);

CREATE TABLE users
(
```

```

        id          uuid PRIMARY KEY          DEFAULT uuid_generate_v4(),
        username    varchar(32) NOT NULL UNIQUE,
        password    varchar(32) NOT NULL,
        name        varchar(16) NOT NULL,
        surname     varchar(16) NOT NULL,
        phone_number varchar(16) NOT NULL,
        address     varchar(64) NOT NULL,
        plus_subscriber boolean          NOT NULL DEFAULT false
    );

CREATE TABLE shops
(
    id          uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    name        varchar(32) NOT NULL UNIQUE,
    address     varchar(32) NOT NULL,
    email       text          NOT NULL,
    phone_number varchar(15) NOT NULL,
    rating      numeric,
    rating_votes int
);

CREATE TABLE orders
(
    id          uuid PRIMARY KEY DEFAULT uuid_generate_v4(),
    user_id     uuid REFERENCES users (id),
    order_unit_id uuid REFERENCES order_units (id),
    shop_id     uuid REFERENCES shops (id)
);

```

File insert_values.sql:

```

INSERT INTO users (username, password, name, surname, phone_number, address,
plus_subscriber)
VALUES ('user1', 'password1', 'John', 'Doe', '123456789', '123 Street,
Tampa', true),
      ('user2', 'password2', 'Jane', 'Smith', '987654321', '626 Road,
Tampa', false),
      ('user3', 'password3', 'Bob', 'Smith', '987654321', '131 Road, Tampa',
true),
      ('user4', 'password4', 'Alice', 'Smith', '987654321', '647 Road,
Tampa', true),
      ('user5', 'password5', 'John', 'Smith', '987654321', '868 Road,
Tampa', false),
      ('user6', 'password6', 'Jack', 'Smith', '987654321', '246 Road,
Tampa', true),
      ('user7', 'password7', 'Olivia', 'Smith', '987654321', '456 Road,
Tampa', false),
      ('user8', 'password8', 'Oliver', 'Smith', '987654321', '788 Road,
Tampa', true);

INSERT INTO shops (name, address, email, phone_number, rating)
VALUES ('Shop 1', '789 Street, Tampa', 'shop1@example.com', '301963213',
4.5),
      ('Shop 2', '239 Street, Tampa', 'shop2@example.com', '135131366',
1.4),
      ('Shop 3', '212 Street, Tampa', 'shop3@example.com', '735753824',
3.5),
      ('Shop 4', '668 Street, Tampa', 'shop4@example.com', '353734163',
3.7),
      ('Shop 5', '356 Street, Tampa', 'shop5@example.com', '856341789',
4.9),
      ('Shop 6', '101 Street, Tampa', 'shop6@example.com', '345472772',
5.0),
      ('Shop 7', '853 Street, Tampa', 'shop7@example.com', '444567234',

```

```

3.2),
    ('Shop 8', '442 Street, Tampa', 'shop8@example.com', '575884222',
2.8);

INSERT INTO categories (name)
VALUES ('Electronics'),
    ('Clothing'),
    ('Books'),
    ('Home Appliances'),
    ('Sports Equipment'),
    ('Furniture'),
    ('Toys'),
    ('Beauty Products');

-- Заполнение данных из .csv

\copy users (id, username, password, name, surname, phone_number, address,
plus_subscriber) FROM 'users.csv' DELIMITER ',' CSV HEADER;

\copy shops (id, name, address, email, phone_number, rating) FROM 'shops.csv'
DELIMITER ',' CSV HEADER;

\copy categories (id, name) FROM 'categories.csv' DELIMITER ',' CSV HEADER;

```

File categories.csv:

```

name
Food
Jewelry
Tools
Stationery
Pet Supplies
Music and Instruments
Healthcare
Cosmetics

```

File users.csv:

```

username,password,name,surname,phone_number,address,plus_subscriber
user9,password9,Emily,Johnson,123456789,789 Street, Tampa,true
user10,password10,Michael,Johnson,987654321,456 Avenue, Tampa,false
user11,password11,Emma,Johnson,987654321,123 Road, Tampa,true
user12,password12,James,Johnson,987654321,789 Boulevard, Tampa,true
user13,password13,Sophia,Johnson,987654321,456 Lane, Tampa,false
user14,password14,Alexander,Johnson,987654321,123 Court, Tampa,true
user15,password15,Abigail,Johnson,987654321,789 Drive, Tampa,false
user16,password16,Ethan,Johnson,987654321,456 Street, Tampa,true

```

File shops.csv:

```

name,address,email,phone_number,rating
Shop 9,789 Avenue, Tampa,shop9@example.com,789654123,2.3
Shop 10,456 Street, Tampa,shop10@example.com,123456789,3.9
Shop 11,321 Road, Tampa,shop11@example.com,987654321,4.2
Shop 12,789 Lane, Tampa,shop12@example.com,741852963,2.7
Shop 13,123 Boulevard, Tampa,shop13@example.com,159357246,3.6
Shop 14,987 Court, Tampa,shop14@example.com,369258147,4.8
Shop 15,456 Drive, Tampa,shop15@example.com,852741963,3.4
Shop 16,321 Avenue, Tampa,shop16@example.com,258369147,2.1

```