

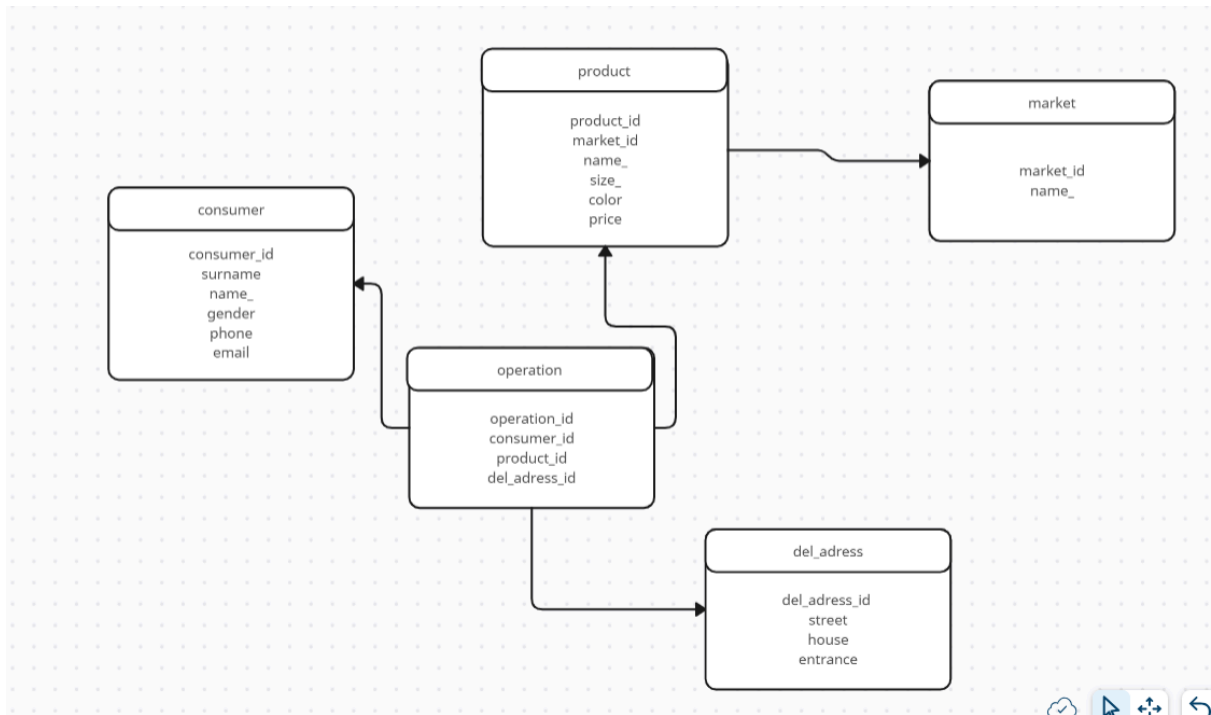
САНКТ- ПЕТЕРБУРГСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ

**ФАКУЛЬТЕТ ПРИКЛАДНОЙ МАТЕМАТИКИ ПРОЦЕССОВ
УПРАВЛЕНИЯ**

Сулейманова Рената Венеровна

БАЗЫ ДАННЫХ

курсовая работа
студента 2 курса бакалавриат ПМИ



В базе данных содержатся таблицы:

1. operation

Главная таблица по отношению к таблицам product, del_address, consumer. Содержит информацию о совершенных операциях покупок

2. product

Главная таблица по отношению к таблице market. Содержит информацию о товарах на маркетплейсе

3. market

Содержит названия всех магазинов, товары из которых представлены в product

4. del_address

Адреса пунктов выдачи заказов.

5. consumer

Информация о пользователях

SQL-запросы

Легкие

1. Товары, цена которых находится в промежутке от 3000 до 5000

```
SELECT * FROM product where price between 3000 and 5000;
```

	product_id [PK] integer	market_id integer	name_ character	size_ integer	color character	price integer
1	4	6	bracelet ...	24	silver	4699
2	5	2	sweater ...	56	white	3499
3	7	3	dress	44	green	3799
4	13	10	t-shirt	46	white	3699

2. Адреса пунктов выдачи на Халтурина

```
SELECT * FROM del_adress WHERE street LIKE 'Khalturina%';
```

	del_adress_id [PK] integer	street character	house integer	entrance integer
1	7	Khalturina	3	1
2	9	Khalturina	1	2

3. Товары, которые есть в наличии в белом или черном цветах

```
SELECT * FROM product WHERE (color = 'black' OR color = 'white');
```

	product_id [PK] integer	market_id integer	name_ character	size_ integer	color character	price integer
1	5	2	sweater ...	56	white	3499
2	6	10	sneakers ...	43	black	5999
3	8	9	shoes	38	black	5399
4	10	2	jumper ...	54	white	2499
5	11	5	skirt	42	black	2599
6	13	10	t-shirt	46	white	3699
7	15	2	jacket	54	black	12699

4. Количество товара на складе

```
SELECT name_, COUNT(product_id) FROM product  
GROUP BY name_;
```

	name_ character	count bigint
1	dress	2
2	sweater	1
3	shoes	1
4	shorts	1
5	sneakers	2
6	t-shirt	3
7	skirt	2
8	bracelet	1
9	jacket	1
10	jumper	1

Средние

1. Из какого магазина товар, ранжированный список по цене

```
SELECT
market.name_,
product.name_,
product.price
FROM market INNER JOIN product ON product.market_id = market.market_id
ORDER BY price;
```

	name_ character	name_ character	price integer
1	Re	t-shirt	799
2	Befree	shorts	899
3	SuperStep	sneakers	999
4	Re	t-shirt	999
5	Befree	skirt	1499
6	Gloria Jeans	jumper	2499
7	Love republic	skirt	2599
8	Gloria Jeans	sweater	3499
9	Lacoste	t-shirt	3699
10	Maag	dress	3799
11	Sunlight	bracelet	4699
12	RalfRinger	shoes	5399

2. Покупки, совершенные женским полом

```

SELECT consumer.name_, product.name_ from product
JOIN operation ON operation.product_id = product.product_id
JOIN consumer ON operation.consumer_id = consumer.consumer_id
WHERE gender LIKE 'female%';

```

	name_ character	name_ character
1	Daria	sneakers ...
2	Maria	dress ...
3	Zinaida	skirt
4	Zinaida	skirt
5	Olga	bracelet ...
6	Alina	jumper ...
7	Karina	skirt

3. На какой пункт выдачи будет доставлен товар и сколько

```

1 SELECT del_adress.street, COUNT(consumer.name_) FROM operation
2 JOIN consumer ON operation.consumer_id = consumer.consumer_id
3 JOIN del_adress ON operation.del_adress_id = del_adress.del_adress_id
4 GROUP BY street
5 ORDER BY street;

```

	street character	count bigint
1	Botanicheskaya	3
2	Chebyshevskaya	1
3	Chicherinskaya	3
4	Khalturina	4
5	Peterhofskaya	2
6	Razvodnaya	4
7	Shakhmatova	3

Сложные

1. Топ 5 человек купивших больше всего вещей в магазине Befree

```

1 select consumer.surname, consumer.name_, count(product.product_id), SUM(product.price) from operation
2 join consumer ON consumer.consumer_id = operation.consumer_id
3 join product ON product.product_id = operation.product_id
4 where surname in (
5 select surname from market
6 join product on market.market_id = product.market_id
7 join operation on operation.product_id = product.product_id
8 join consumer ON consumer.consumer_id = operation.consumer_id
9 where (market.name_ = 'Befree'))
10 group by consumer.surname, consumer.name_
11 order by count(product.product_id) DESC
12 LIMIT 5:

```

	surname character	name_ character	count bigint	sum bigint
1	Rotikov	Leonid	3	11197
2	Alikova	Zinaida	2	4098
3	Bortova	Karina	1	1499
4	Bortova	Alina	1	2499
5	Aminov	Artem	1	899

2. На какую сумму содержатся футболки и юбки в магазинах

```

1 Select market.name_, SUM(product.price) from operation
2 join product ON product.product_id = operation.product_id
3 join market ON market.market_id = product.market_id
4 where market.name_ IN (
5 select market.name_ from product
6 join market ON market.market_id = product.market_id
7 where (product.name_ = 't-shirt' or product.name_ = 'skirt'))
8 group by market.name_
9 order by SUM(product.price) DESC;

```

	name_ character	sum bigint
1	Lacoste ...	5999
2	Love republi...	5198
3	Befree ...	4796
4	Re	1998

3. Каких товаров и сколько заказали женщины в магазинах

```

1 select product.name_, count(operation_id) from operation
2 join consumer ON consumer.consumer_id = operation.consumer_id
3 join product ON product.product_id = operation.product_id
4 where product.name_ IN(
5 select product.name_ from operation
6 join consumer ON consumer.consumer_id = operation.consumer_id
7 join product ON product.product_id = operation.product_id
8 where gender like 'female%')
9 group by product.name_
10 order by count(operation_id) DESC;

```

	name_ character 	count bigint 
1	dress	4
2	skirt	4
3	sneakers ...	2
4	bracelet	2
5	jumper	1

