

Лабораторная работа №4	Ф.И.О.	Якупова Д. А.
	Группа	ПрИн-266
	Преподаватель	Соколов Александр Александрович
	Дата сдачи	

1. Запросы, которые указаны в функциональных требованиях (20 шт.)

```
mysql> insert into product (name, dateandtime, weight)
-> /*Хранить информацию о товаре*/
-> value('Птичье молоко','2020-11-09 20:08:09',900);
Query OK, 1 row affected (0.03 sec)
```

```
mysql> update product
-> /*Изменить информацию о товарах*/
-> set name = "Слойка груша-сыр" where id = 5;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> delete from product
-> /*Удалить товар*/
-> where name = "Птичье молоко";
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into orders(dateandtimeorder,receivingid,paymentsid,customersid)
-> /*Добавить заказ*/
-> value('2020-11-02 20:20:13',2,1,4);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> update orders
-> /*Изменить информацию о заказе*/
-> set paymentsid=3 where id=11;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> delete from orders
-> /*Удалить информацию о заказе*/
-> where id =11;
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select promocode,datestart,dateend,name,amountdiscount from promotions
-> /*Дать информацию обо всех доступных акциях*/
-> where current_date() <= dateend;
+-----+-----+-----+-----+-----+
| promocode | datestart | dateend | name | amountdiscount |
+-----+-----+-----+-----+-----+
| ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
| S100 | 2020-11-14 | 2020-11-29 | Маффины | 15 |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> select name from product
-> /*Дать информацию о новинках*/
-> where isnew=1;
+-----+
| name |
+-----+
| Прага |
| Маффин шоколадный |
| Печенье имбирное |
| Хлеб баварский |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> select product.name, orderstoproducts.count
-> /*Получить информацию о количестве заказов определенного продукта за неделю*/
-> from product
-> inner join orderstoproducts on orderstoproducts.productsid=product.id
-> inner join orders on orderstoproducts.ordersid=orders.id
-> where product.name='Чизкейк клубничный' and orders.dateandtimeorder<=now() and orders.dateandtimeorder>='2020-11-08 00:00:00';
+-----+
| name          | count |
+-----+
| Чизкейк клубничный | 3     |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select product.name
-> /*Получить информацию о самом популярном товаре недели*/
-> from product
-> inner join orderstoproducts on orderstoproducts.productsid=product.id
-> inner join orders on orderstoproducts.ordersid=orders.id
-> where orderstoproducts.count=(select max(orderstoproducts.count) from orderstoproducts) and orders.dateandtimeorder<=now() and orders.dateandtimeorder>='2020-11-08 00:00:00';
+-----+
| name          |
+-----+
| Маффин шоколадный |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select product.name
-> /*Получить рейтинг новинок*/
-> from product
-> inner join orderstoproducts on orderstoproducts.productsid=product.id
-> where product.isnew=1
-> order by orderstoproducts.count desc;
+-----+
| name          |
+-----+
| Маффин шоколадный |
| Печенье имбирное  |
| Прага           |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select stringcharacteristics.valueisstring, sum(orderstoproducts.count) as 'Итого'
-> /*Получить информацию о самом популярном типе товара*/
-> from stringcharacteristics
-> inner join productstostingcharacteristics on productstostingcharacteristics.stringcharacteristicsid=stringcharacteristics.id
-> inner join product on productstostingcharacteristics.productsid = product.id
-> inner join orderstoproducts on orderstoproducts.productsid=product.id
-> inner join productcharacteristics on productcharacteristics.id=stringcharacteristics.productcharacteristicsid
-> where productcharacteristics.id=5
-> group by stringcharacteristics.id
-> order by sum(orderstoproducts.count) desc
-> limit 1;
+-----+
| valueisstring | Итого |
+-----+
| Маффины       | 12    |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select avg(product.cost) as 'Средней сумме заказа'
-> /*Получить информацию о средней сумме заказа*/
-> from product;
+-----+
| Средней сумме заказа |
+-----+
| 842.0000             |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select shops.address
-> /*Получить информацию о самом популярном магазине*/
-> from shops
-> inner join productstoshop on productstoshop.shopsid=shops.id
-> group by shops.address
-> order by sum(productstoshop.count) desc
-> limit 1;
+-----+
| address          |
+-----+
| Хорошева 56 80  |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select product.name
-> /*Дать информацию о самых популярных товарах*/
-> from product
-> inner join orderstoproducts on orderstoproducts.productsid=product.id
-> group by product.name
-> order by sum(orderstoproducts.count) desc
-> limit 3;
+-----+
| name          |
+-----+
| Маффин шоколадный |
| Медовик        |
| Тирамису       |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select product.name
-> /*Дать информацию о наименее популярных товарах*/
-> from product
-> inner join orderstoproducts on orderstoproducts.productsid=product.id
-> group by product.name
-> order by sum(orderstoproducts.count)
-> limit 3;
+-----+
| name |
+-----+
| Прага |
| Печенье творожное |
| Чизкейк клубничный |
+-----+
3 rows in set (0.00 sec)
```

```
mysql> select product.name
-> /*Получить информацию обо всех продуктах данного типа*/
-> from product
-> inner join productstostingcharacteristics on productstostingcharacteristics.productsid=product.id
-> inner join stringcharacteristics on stringcharacteristics.id=productstostingcharacteristics.stringcharacteristicsid
-> inner join productcharacteristics on productcharacteristics.id=stringcharacteristics.productcharacteristicsid
-> where stringcharacteristics.valueisstring='Торты';
+-----+
| name |
+-----+
| Прага |
| Медовик |
+-----+
2 rows in set (0.00 sec)
```

```
mysql> select product.cost
-> /*Вывести стоимость определенного продукта*/
-> from product
-> where product.name='Медовик' and product.weight=1800;
+-----+
| cost |
+-----+
| 800 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select shops.address
-> /*Вывести все адреса магазинов*/
-> from shops;
+-----+
| address |
+-----+
| 51 Гвардейская 18 1 |
| Хорошева 56 80 |
| Качинцев 32А 146 |
| Каспийская 120 |
| Балонина 32В |
| Космонавтов 31А 43 |
| 51 Гвардейская 32 23 |
| Танкистов 1А 34 |
| Рязская 54 |
| Ткачева 13А 101 |
+-----+
10 rows in set (0.00 sec)
```

```
mysql> select *
-> /*Получить весь список акций месяца*/
-> from promotions
-> where datestart>='2020-10-17 00:00:00' and datestart<=now();
+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+-----+
| 5 | LK09 | 2020-10-18 | 2020-07-01 | Осенние новинки | 10 |
| 8 | S100 | 2020-11-14 | 2020-11-29 | Маффины | 15 |
+-----+
2 rows in set (0.00 sec)
```

2. INSERTы для БД из предыдущей лабораторной работы (10 шт.)

```
mysql> insert positions(id,name,experience)
-> VALUES
-> (1,'Alex',1),
-> (2,'Alice',2),
-> (3,'Rocky',3);
Query OK, 3 rows affected (0.10 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> insert showrooms(id,name,number,partofmuseum,square)
-> VALUES
-> (1,'room1',2,'first',20),
-> (2,'room2',3,'second',30),
-> (3,'room3',1,'eastern',25),
-> (4,'room4',4,'western',18);
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> insert exhibits(id,name,date,epoch,material,placeoffind,weight,description)
-> VALUES
-> (1,'bowl','1817-06-13','default','unknown','unknown',2,'something'),
-> (2,'spoon','1890-03-08','default','unknown','somewhere',4,'something also'),
-> (3,'spoon','1890-03-08','question','unknown','somewhere also',13,'blablabla');
Query OK, 3 rows affected (0.10 sec)
Records: 3 Duplicates: 0 Warnings: 0
```

3. UPDATE (с WHERE) (7 шт.).

```
mysql> update product set weight=120 where name='Слойка вишневая';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update product set cost=320 where name='Шарлотка с яблоками';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update shops set address='51 Гвардейская 18 2' where id=1;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update shops set address='Хорошева 156 80' where id=2;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> update receivings set address='51 Гвардейская 18 104' where id =1;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update receivings set address='Танкистов 22 56' where id =4;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> update receivings set address='Мира 13 112' where id =10;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

4. DELETE с WHERE (6 шт.)

```
mysql> delete from receivings where address='Ряжская 3 45';
Query OK, 1 row affected (0.00 sec)

mysql> delete from receivings where address='Мира 43 134';
Query OK, 1 row affected (0.00 sec)

mysql> delete from product where name='Пирог яблочный';
Query OK, 1 row affected (0.01 sec)

mysql> delete from product where name='Ванильный экер';
Query OK, 1 row affected (0.00 sec)

mysql> delete from payments where name='Мобильная оплата';
Query OK, 1 row affected (0.00 sec)

mysql> delete from payments where id=5;
Query OK, 1 row affected (0.00 sec)
```

5. SELECT, DISTINCT, WHERE, AND/OR/NOT, IN, BETWEEN, IS NULL, AS (25 шт.)

```
mysql> select name from payments;
+-----+
| name |
+-----+
| Наличными |
| Карта |
| Перевод на номер телефона |
+-----+
3 rows in set (0.00 sec)

mysql> select address from shops;
+-----+
| address |
+-----+
| 51 Гвардейская 18 2 |
| Хорошева 156 80 |
| Качинцев 32А 146 |
| Каспийская 120 |
| Балонина 32В |
| Космонавтов 31А 43 |
| 51 Гвардейская 32 23 |
| Танкистов 1А 34 |
| Рязская 54 |
| Ткачева 13А 101 |
+-----+
10 rows in set (0.00 sec)

mysql> select name from product where cost <1000;
+-----+
| name |
+-----+
| Медовик |
| Слойка груша-сыр |
| Печенье имбирное |
| Медовик |
| Хлеб баварский |
| Печенье творожное |
| Слойка вишневая |
| Шарлотка с яблоками |
+-----+
```

```
mysql> select name from product where cost<800 and cost>200;
+-----+
| name |
+-----+
| Шарлотка с яблоками |
+-----+
1 row in set (0.00 sec)

mysql> select distinct name from product;
+-----+
| name |
+-----+
| Прага |
| Медовик |
| Тирамису |
| Маффин шоколадный |
| Слойка груша-сыр |
| Печенье имбирное |
| Чизкейк клубничный |
| Хлеб баварский |
| Печенье творожное |
| Слойка вишневая |
| Шарлотка с яблоками |
+-----+
11 rows in set (0.00 sec)

mysql> select * from promotions where name in ('Новинка', 'Скидки на весь ассортимент');
+-----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+-----+-----+-----+-----+-----+-----+
| 1 | ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
| 3 | Yf09 | 2020-04-05 | 2020-04-10 | Скидки на весь ассортимент | 15 |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> select distinct name from promotions;
```

name
Новинка
Вечерняя
Скидки на весь ассортимент
Лето
Осенние новинки
Встречаем осень
Торты
Мафины
Скидки на весь ассотримент
Праздничный

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

```
mysql> select * from promotions where amountdiscount in (20,25);
```

id	promocode	dateStart	dateEnd	name	amountDiscount
4	HDKD	2020-06-01	2020-06-05	Лето	20
7	MM091	2020-10-16	2020-10-20	Торты	25

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

```
mysql> select * from product where name in ('Медовик', 'Прага', 'Тирамису');
```

id	name	dateAndTime	weight	isnew	cost
1	Прага	2020-11-11 13:34:00	1900	1	2000
2	Медовик	2020-10-20 17:15:04	1800	0	800
3	Тирамису	2020-10-20 17:44:20	1950	0	1000
8	Медовик	2020-10-20 18:04:45	2000	0	800

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

```
mysql> select * from product where cost between 800 and 1500;
```

id	name	dateAndTime	weight	isnew	cost
2	Медовик	2020-10-20 17:15:04	1800	0	800
3	Тирамису	2020-10-20 17:44:20	1950	0	1000
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500
8	Медовик	2020-10-20 18:04:45	2000	0	800

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

```
mysql> select * from product where weight between 1000 and 2000;
```

id	name	dateAndTime	weight	isnew	cost
1	Прага	2020-11-11 13:34:00	1900	1	2000
2	Медовик	2020-10-20 17:15:04	1800	0	800
3	Тирамису	2020-10-20 17:44:20	1950	0	1000
7	Чизкейк клубничный	2020-10-20 17:50:15	1900	0	1800
8	Медовик	2020-10-20 18:04:45	2000	0	800
12	Шарлотка с яблоками	2020-11-17 09:16:34	1000	1	320

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

```
mysql> select * from promotions where amountdiscount between 10 and 20;
```

id	promocode	dateStart	dateEnd	name	amountDiscount
1	ABC87	2020-12-03	2020-12-14	Новинка	10
3	YF09	2020-04-05	2020-04-10	Скидки на весь ассортимент	15
4	HDKD	2020-06-01	2020-06-05	Лето	20
5	LK09	2020-10-18	2020-07-01	Осенние новинки	10
6	VN09	2020-09-01	2020-09-14	Встречаем осень	15
8	S100	2020-11-14	2020-11-29	Мафины	15
9	45AA	2020-05-10	2020-05-30	Скидки на весь ассотримент	10
10	FF012	2020-03-08	2020-03-10	Праздничный	15

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

```
mysql> select * from promotions where amountdiscount between 5 and 15;
```

id	promocode	dateStart	dateEnd	name	amountDiscount
1	ABC87	2020-12-03	2020-12-14	Новинка	10
2	J87J	2020-01-14	2020-01-29	Вечерняя	5
3	YF09	2020-04-05	2020-04-10	Скидки на весь ассортимент	15
5	LK09	2020-10-18	2020-07-01	Осенние новинки	10
6	VN09	2020-09-01	2020-09-14	Встречаем осень	15
8	S100	2020-11-14	2020-11-29	Мафины	15
9	45AA	2020-05-10	2020-05-30	Скидки на весь ассотримент	10
10	FF012	2020-03-08	2020-03-10	Праздничный	15

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

```
mysql> select valueisstring as value, productcharacteristicsid
-> from stringcharacteristics;
```

value	productcharacteristicsid
Малиновый джем	1
Сливочный	2
Пшеничная	3
Заварной крем	4
Булочки	5
Шоколадный	6
Ванильный	4
Карамельный	8
Эклер	5
Клубничный джем	8
Хлебные изделия	5
Пироги	5
Торты	5
Кексы	5
Мафины	5

15 rows in set (0.00 sec)

```
mysql> select fullname as name, phonenumber as number
-> from customers;
```

name	number
Иванов И. И.	89614532398
Петров И. А.	89025671398
Сидоров Г. И.	89025679898
Иванов М. И.	89615672398
Петров В. И.	89025687398
Иванов И. А.	89618942398
Петров Е. И.	89026772356
Иванов И. Д.	89027839098
Сидоров А. М.	89029042398
Сидоров К. И.	89049048723

10 rows in set (0.00 sec)

```
mysql> select address as addr from shops;
```

addr
51 Гвардейская 18 2
Хорошева 156 80
Качинцев 32А 146
Каспийская 120
Балонина 32В
Космонавтов 31А 43
51 Гвардейская 32 23
Танкистов 1А 34
Ряжская 54
Ткачева 13А 101

10 rows in set (0.00 sec)

```
mysql> select distinct cost from product;
```

cost
2000
800
1000
1500
80
120
1800
200
100
320

10 rows in set (0.00 sec)

```
mysql> select dateandtimereceiving as receivingtime, address as addr from receivings;
```

receivingtime	addr
2020-04-23 13:34:05	51 Гвардейская 18 104
2020-12-12 15:34:10	Ткачева 43Б 23
2020-04-05 12:38:05	51 Гвардейская 20 45
2020-09-23 13:34:05	Танкистов 22 56
2020-04-18 20:03:05	Ряжская 2 56
2020-04-23 18:41:16	Хорошева 34Б 86
2020-10-14 22:34:05	Космонавтов 34
2020-06-23 21:34:30	Еременко 67 111
2020-08-23 13:34:45	Савкина 16 12
2020-07-29 14:05:45	Мира 13 112

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

```
mysql> select * from product where name='Медовик' or 'Тирамису';
```

id	name	dateAndTime	weight	isnew	cost
2	Медовик	2020-10-20 17:15:04	1800	0	800
8	Медовик	2020-10-20 18:04:45	2000	0	800

```
2 rows in set, 1 warning (0.00 sec)
```

```
mysql> select * from product where weight='1800' or weight='1900';
```

id	name	dateAndTime	weight	isnew	cost
1	Прага	2020-11-11 13:34:00	1900	1	2000
2	Медовик	2020-10-20 17:15:04	1800	0	800
7	Чизкейк клубничный	2020-10-20 17:50:15	1900	0	1800

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

```
mysql> select * from product where cost='800' or cost='900';
```

id	name	dateAndTime	weight	isnew	cost
2	Медовик	2020-10-20 17:15:04	1800	0	800
8	Медовик	2020-10-20 18:04:45	2000	0	800

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

```
mysql> select * from shops where address not like '51%';
```

id	address
2	Хорошева 15Б 80
3	Качинцев 32А 146
4	Каспийская 120
5	Балонина 32В
6	Космонавтов 31А 43
8	Танкистов 1А 34
9	Ряжская 54
10	Ткачева 13А 101

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

```
mysql> select * from receivings where address not like 'Т%';
```

id	dateAndTimeReceiving	address
1	2020-04-23 13:34:05	51 Гвардейская 18 104
3	2020-04-05 12:38:05	51 Гвардейская 20 45
5	2020-04-18 20:03:05	Ряжская 2 56
6	2020-04-23 18:41:16	Хорошева 34Б 86
7	2020-10-14 22:34:05	Космонавтов 34
8	2020-06-23 21:34:30	Еременко 67 111
9	2020-08-23 13:34:45	Савкина 16 12
10	2020-07-29 14:05:45	Мира 13 112

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



```
mysql> select * from product where weight not between 100 and 800;
+----+-----+-----+-----+-----+-----+
| id | name           | dateAndTime       | weight | isnew | cost |
+----+-----+-----+-----+-----+-----+
| 1  | Прага          | 2020-11-11 13:34:00 | 1900   | 1     | 2000 |
| 2  | Медовик        | 2020-10-20 17:15:04 | 1800   | 0     | 800  |
| 3  | Тирамису       | 2020-10-20 17:44:20 | 1950   | 0     | 1000 |
| 7  | Чизкейк клубничный | 2020-10-20 17:50:15 | 1900   | 0     | 1800 |
| 8  | Медовик        | 2020-10-20 18:04:45 | 2000   | 0     | 800  |
| 12 | Шарлотка с яблоками | 2020-11-17 09:16:34 | 1000   | 1     | 320  |
+----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> select * from product where weight not between 1200 and 2000;
+----+-----+-----+-----+-----+-----+
| id | name           | dateAndTime       | weight | isnew | cost |
+----+-----+-----+-----+-----+-----+
| 4  | Маффин шоколадный | 2020-11-12 15:38:45 | 800    | 1     | 1500 |
| 5  | Слойка груша-сыр | 2020-10-20 11:30:02 | 200    | 0     | 80   |
| 6  | Печенье имбирное | 2020-11-12 13:06:45 | 180    | 1     | 120  |
| 9  | Хлеб баварский   | 2020-10-20 13:34:45 | 400    | 1     | 120  |
| 10 | Печенье творожное | 2020-10-20 14:34:27 | 160    | 0     | 200  |
| 11 | Слойка вишневая  | 2020-11-16 16:09:13 | 120    | 0     | 100  |
| 12 | Шарлотка с яблоками | 2020-11-17 09:16:34 | 1000   | 1     | 320  |
+----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

6. LIKE (8 шт.)

```
mysql> select address from receivings where address like '51%';
+-----+
| address |
+-----+
| 51 Гвардейская 18 104 |
| 51 Гвардейская 20 45 |
+-----+
2 rows in set (0.00 sec)

mysql> select address from receivings where address like 'Т%';
+-----+
| address |
+-----+
| Ткачева 435 23 |
| Танкистов 22 56 |
+-----+
2 rows in set (0.00 sec)

mysql> select address from shops where address like 'Х%';
+-----+
| address |
+-----+
| Хорошева 156 80 |
+-----+
1 row in set (0.00 sec)

mysql> select address from shops where address like 'Ка%';
+-----+
| address |
+-----+
| Качинцев 32А 146 |
| Каспийская 120 |
+-----+
2 rows in set (0.00 sec)
```

```
mysql> select * from promotions where promocode like 'А%';
+----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name   | amountDiscount |
+----+-----+-----+-----+-----+-----+
| 1  | ABC87    | 2020-12-03 | 2020-12-14 | Новинка | 10 |
+----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from promotions where promocode like 'J%';
+----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name   | amountDiscount |
+----+-----+-----+-----+-----+-----+
| 2  | J87J     | 2020-01-14 | 2020-01-29 | Вечерняя | 5 |
+----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from product where name like 'М%';
+----+-----+-----+-----+-----+-----+
| id | name           | dateAndTime       | weight | isnew | cost |
+----+-----+-----+-----+-----+-----+
| 2  | Медовик        | 2020-10-20 17:15:04 | 1800   | 0     | 800  |
| 4  | Маффин шоколадный | 2020-11-12 15:38:45 | 800    | 1     | 1500 |
| 8  | Медовик        | 2020-10-20 18:04:45 | 2000   | 0     | 800  |
+----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from product where name like 'Б%'
-> ;
Empty set (0.00 sec)

mysql> select * from product where name like 'Печенье%';
+----+-----+-----+-----+-----+-----+
| id | name           | dateAndTime       | weight | isnew | cost |
+----+-----+-----+-----+-----+-----+
| 6  | Печенье имбирное | 2020-11-12 13:06:45 | 180    | 1     | 120  |
| 10 | Печенье творожное | 2020-10-20 14:34:27 | 160    | 0     | 200  |
+----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

7. COUNT, MAX, MIN, SUM, AVG (11 шт.)

```
mysql> select count(*) from product;
+-----+
| count(*) |
+-----+
|      12 |
+-----+
1 row in set (0.01 sec)

mysql> select count(*) from shops;
+-----+
| count(*) |
+-----+
|      10 |
+-----+
1 row in set (0.01 sec)

mysql> select name from product where cost=(select max(cost) from product);
+-----+
| name |
+-----+
| Пара |
+-----+
1 row in set (0.00 sec)

mysql> select count from orderstoproducts where count=(select max(count) from orderstoproducts);
+-----+
| count |
+-----+
|      12 |
+-----+
1 row in set (0.00 sec)

mysql> select name from product where weight=(select max(weight) from product);
+-----+
| name |
+-----+
| Медовик |
+-----+
1 row in set (0.00 sec)

mysql> select name from product where cost=(select min(cost) from product);
+-----+
| name |
+-----+
| Слойка груша-сыр |
+-----+
1 row in set (0.00 sec)

mysql> select avg(weight) as 'Средний вес' from product;
+-----+
| Средний вес |
+-----+
|    1034.1667 |
+-----+
1 row in set (0.00 sec)

mysql> select name
-> from product
-> where weight=(select min(weight) from product);
+-----+
| name |
+-----+
| Слойка вишневая |
+-----+
1 row in set (0.00 sec)

mysql> select sum(cost) as 'Общая сумма' from product;
+-----+
| Общая сумма |
+-----+
|      8840 |
+-----+
1 row in set (0.00 sec)

mysql> select sum(weight) as 'Общая вес' from product;
+-----+
| Общая вес |
+-----+
|     12410 |
+-----+
1 row in set (0.00 sec)

mysql> select avg(cost) as 'Средняя цена' from product;
+-----+
| Средняя цена |
+-----+
|     736.6667 |
+-----+
1 row in set (0.00 sec)
```

8. GROUP BY, HAVING (7 шт.)

```
mysql> select name, sum(cost) as 'Итого'
-> from product
-> group by name;
```

name	Итого
Прага	2000
Медовик	1600
Тирамису	1000
Маффин шоколадный	1500
Слойка груша-сыр	80
Печенье имбирное	120
Чизкейк клубничный	1800
Хлеб баварский	120
Печенье творожное	200
Слойка вишневая	100
Шарлотка с яблоками	320

11 rows in set (0.00 sec)

```
mysql> select * from product group by weight;
```

id	name	dateAndTime	weight	isnew	cost
1	Прага	2020-11-11 13:34:00	1900	1	2000
2	Медовик	2020-10-20 17:15:04	1800	0	800
3	Тирамису	2020-10-20 17:44:20	1950	0	1000
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500
5	Слойка груша-сыр	2020-10-20 11:30:02	200	0	80
6	Печенье имбирное	2020-11-12 13:06:45	180	1	120
8	Медовик	2020-10-20 18:04:45	2000	0	800
9	Хлеб баварский	2020-10-20 13:34:45	400	1	120
10	Печенье творожное	2020-10-20 14:34:27	160	0	200
11	Слойка вишневая	2020-11-16 16:09:13	120	0	100
12	Шарлотка с яблоками	2020-11-17 09:16:34	1000	1	320

11 rows in set (0.00 sec)

```
mysql> select * from product group by weight having cost < 1000;
```

id	name	dateAndTime	weight	isnew	cost
2	Медовик	2020-10-20 17:15:04	1800	0	800
5	Слойка груша-сыр	2020-10-20 11:30:02	200	0	80
6	Печенье имбирное	2020-11-12 13:06:45	180	1	120
8	Медовик	2020-10-20 18:04:45	2000	0	800
9	Хлеб баварский	2020-10-20 13:34:45	400	1	120
10	Печенье творожное	2020-10-20 14:34:27	160	0	200
11	Слойка вишневая	2020-11-16 16:09:13	120	0	100
12	Шарлотка с яблоками	2020-11-17 09:16:34	1000	1	320

8 rows in set (0.00 sec)

```
mysql> select * from product group by weight having weight > 500;
```

id	name	dateAndTime	weight	isnew	cost
1	Прага	2020-11-11 13:34:00	1900	1	2000
2	Медовик	2020-10-20 17:15:04	1800	0	800
3	Тирамису	2020-10-20 17:44:20	1950	0	1000
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500
8	Медовик	2020-10-20 18:04:45	2000	0	800
12	Шарлотка с яблоками	2020-11-17 09:16:34	1000	1	320

6 rows in set (0.00 sec)

```
mysql> select * from promotions group by datestart having amountdiscount>=20;
```

id	promocode	dateStart	dateEnd	name	amountDiscount
4	HDKD	2020-06-01	2020-06-05	Лето	20
7	MM091	2020-10-16	2020-10-20	Торты	25

2 rows in set (0.00 sec)

```
mysql> select * from promotions group by datestart having amountdiscount<20;
```

id	promocode	dateStart	dateEnd	name	amountDiscount
1	ABC87	2020-12-03	2020-12-14	Новинка	10
2	J87J	2020-01-14	2020-01-29	Вечерняя	5
3	Yf09	2020-04-05	2020-04-10	Скидки на весь ассортимент	15
5	LK09	2020-10-18	2020-07-01	Осенние новинки	10
6	VH09	2020-09-01	2020-09-14	Встречаем осень	15
8	S100	2020-11-14	2020-11-29	Маффины	15
9	45AA	2020-05-10	2020-05-30	Скидки на весь ассотримент	10
10	FF012	2020-03-08	2020-03-10	Праздничный	15

8 rows in set (0.00 sec)

```
mysql> select * from promotions group by promocode having dateend<now();
```

id	promocode	dateStart	dateEnd	name	amountDiscount
2	J87J	2020-01-14	2020-01-29	Вечерняя	5
3	Yf09	2020-04-05	2020-04-10	Скидки на весь ассортимент	15
4	HDKD	2020-06-01	2020-06-05	Лето	20
5	LK09	2020-10-18	2020-07-01	Осенние новинки	10
6	VH09	2020-09-01	2020-09-14	Встречаем осень	15
7	MM091	2020-10-16	2020-10-20	Торты	25
9	45AA	2020-05-10	2020-05-30	Скидки на весь ассотримент	10
10	FF012	2020-03-08	2020-03-10	Праздничный	15

8 rows in set (0.00 sec)

9. ORDER BY, ASC|DESC (6 шт.)

```
mysql> select * from promotions order by datestart desc;
+----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+----+-----+-----+-----+-----+-----+
| 1 | ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
| 8 | S100 | 2020-11-14 | 2020-11-29 | Маффины | 15 |
| 5 | LK09 | 2020-10-18 | 2020-07-01 | Осенние новинки | 10 |
| 7 | MW091 | 2020-10-16 | 2020-10-20 | Торты | 25 |
| 6 | VN09 | 2020-09-01 | 2020-09-14 | Встречаем осень | 15 |
| 4 | HDKD | 2020-06-01 | 2020-06-05 | Лето | 20 |
| 9 | 45AA | 2020-05-10 | 2020-05-30 | Скидки на весь ассортимент | 10 |
| 3 | YF09 | 2020-04-05 | 2020-04-10 | Скидки на весь ассортимент | 15 |
| 10 | FF012 | 2020-03-08 | 2020-03-10 | Праздничный | 15 |
| 2 | J87J | 2020-01-14 | 2020-01-29 | Вечерняя | 5 |
+----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from promotions order by datestart asc;
+----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+----+-----+-----+-----+-----+-----+
| 2 | J87J | 2020-01-14 | 2020-01-29 | Вечерняя | 5 |
| 10 | FF012 | 2020-03-08 | 2020-03-10 | Праздничный | 15 |
| 3 | YF09 | 2020-04-05 | 2020-04-10 | Скидки на весь ассортимент | 15 |
| 9 | 45AA | 2020-05-10 | 2020-05-30 | Скидки на весь ассортимент | 10 |
| 4 | HDKD | 2020-06-01 | 2020-06-05 | Лето | 20 |
| 6 | VN09 | 2020-09-01 | 2020-09-14 | Встречаем осень | 15 |
| 7 | MW091 | 2020-10-16 | 2020-10-20 | Торты | 25 |
| 5 | LK09 | 2020-10-18 | 2020-07-01 | Осенние новинки | 10 |
| 8 | S100 | 2020-11-14 | 2020-11-29 | Маффины | 15 |
| 1 | ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
+----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from promotions order by amountdiscount asc;
+----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+----+-----+-----+-----+-----+-----+
| 2 | J87J | 2020-01-14 | 2020-01-29 | Вечерняя | 5 |
| 1 | ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
| 5 | LK09 | 2020-10-18 | 2020-07-01 | Осенние новинки | 10 |
| 9 | 45AA | 2020-05-10 | 2020-05-30 | Скидки на весь ассортимент | 10 |
| 3 | YF09 | 2020-04-05 | 2020-04-10 | Скидки на весь ассортимент | 15 |
| 6 | VN09 | 2020-09-01 | 2020-09-14 | Встречаем осень | 15 |
| 8 | S100 | 2020-11-14 | 2020-11-29 | Маффины | 15 |
| 10 | FF012 | 2020-03-08 | 2020-03-10 | Праздничный | 15 |
| 4 | HDKD | 2020-06-01 | 2020-06-05 | Лето | 20 |
| 7 | MW091 | 2020-10-16 | 2020-10-20 | Торты | 25 |
+----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> select * from promotions order by amountdiscount desc;
+----+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+----+-----+-----+-----+-----+-----+
| 7 | MW091 | 2020-10-16 | 2020-10-20 | Торты | 25 |
| 4 | HDKD | 2020-06-01 | 2020-06-05 | Лето | 20 |
| 3 | YF09 | 2020-04-05 | 2020-04-10 | Скидки на весь ассортимент | 15 |
| 6 | VN09 | 2020-09-01 | 2020-09-14 | Встречаем осень | 15 |
| 8 | S100 | 2020-11-14 | 2020-11-29 | Маффины | 15 |
| 10 | FF012 | 2020-03-08 | 2020-03-10 | Праздничный | 15 |
| 1 | ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
| 5 | LK09 | 2020-10-18 | 2020-07-01 | Осенние новинки | 10 |
| 9 | 45AA | 2020-05-10 | 2020-05-30 | Скидки на весь ассортимент | 10 |
| 2 | J87J | 2020-01-14 | 2020-01-29 | Вечерняя | 5 |
+----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from product order by name asc;
+-----+-----+-----+-----+-----+-----+
| id | name | dateAndTime | weight | isnew | cost |
+-----+-----+-----+-----+-----+-----+
| 4 | Маффин шоколадный | 2020-11-12 15:38:45 | 800 | 1 | 1500 |
| 2 | Медовик | 2020-10-20 17:15:04 | 1800 | 0 | 800 |
| 8 | Медовик | 2020-10-20 18:04:45 | 2000 | 0 | 800 |
| 6 | Печенье имбирное | 2020-11-12 13:06:45 | 180 | 1 | 120 |
| 10 | Печенье творожное | 2020-10-20 14:34:27 | 160 | 0 | 200 |
| 1 | Прага | 2020-11-11 13:34:00 | 1900 | 1 | 2000 |
| 11 | Слойка вишневая | 2020-11-16 16:09:13 | 120 | 0 | 100 |
| 5 | Слойка груша-сыр | 2020-10-20 11:30:02 | 200 | 0 | 80 |
| 3 | Тирамису | 2020-10-20 17:44:20 | 1950 | 0 | 1000 |
| 9 | Хлеб баварский | 2020-10-20 13:34:45 | 400 | 1 | 120 |
| 7 | Чизкейк клубничный | 2020-10-20 17:50:15 | 1900 | 0 | 1800 |
| 12 | Шарлотка с яблоками | 2020-11-17 09:16:34 | 1000 | 1 | 320 |
+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)

mysql> select * from product order by name desc;
+-----+-----+-----+-----+-----+-----+
| id | name | dateAndTime | weight | isnew | cost |
+-----+-----+-----+-----+-----+-----+
| 12 | Шарлотка с яблоками | 2020-11-17 09:16:34 | 1000 | 1 | 320 |
| 7 | Чизкейк клубничный | 2020-10-20 17:50:15 | 1900 | 0 | 1800 |
| 9 | Хлеб баварский | 2020-10-20 13:34:45 | 400 | 1 | 120 |
| 3 | Тирамису | 2020-10-20 17:44:20 | 1950 | 0 | 1000 |
| 5 | Слойка груша-сыр | 2020-10-20 11:30:02 | 200 | 0 | 80 |
| 11 | Слойка вишневая | 2020-11-16 16:09:13 | 120 | 0 | 100 |
| 1 | Прага | 2020-11-11 13:34:00 | 1900 | 1 | 2000 |
| 10 | Печенье творожное | 2020-10-20 14:34:27 | 160 | 0 | 200 |
| 6 | Печенье имбирное | 2020-11-12 13:06:45 | 180 | 1 | 120 |
| 2 | Медовик | 2020-10-20 17:15:04 | 1800 | 0 | 800 |
| 8 | Медовик | 2020-10-20 18:04:45 | 2000 | 0 | 800 |
| 4 | Маффин шоколадный | 2020-11-12 15:38:45 | 800 | 1 | 1500 |
+-----+-----+-----+-----+-----+-----+
12 rows in set (0.00 sec)
```

10. Вложенные SELECTы (2 шт.)

```
mysql> select name from product where cost=(select max(cost) from product);
+-----+
| name |
+-----+
| Прага |
+-----+
1 row in set (0.00 sec)

mysql> select name from product where cost=(select min(cost) from product);
+-----+
| name |
+-----+
| Слойка груша-сыр |
+-----+
1 row in set (0.00 sec)
```

11. INSERT SELECT (1 шт.)

```
mysql> insert into shops(address)
-> select address from receivings;
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

12. UNION (ALL) (2 шт.)

```
mysql> select name, cost
-> from product
-> where cost < 1500
-> union all
-> select name, cost
-> from product
-> where cost > 200;
```

name	cost
Медовик	800
Тирамису	1000
Слойка груша-сыр	80
Печенье имбирное	120
Медовик	800
Хлеб баварский	120
Печенье творожное	200
Слойка вишневая	100
Шарлотка с яблоками	320
Прага	2000
Медовик	800
Тирамису	1000
Маффин шоколадный	1500
Чизкейк клубничный	1800
Медовик	800
Шарлотка с яблоками	320

16 rows in set (0.00 sec)

```
mysql> select address from shops
-> union select address from receivings;
```

address
51 Гвардейская 18 2
Хорошева 156 80
Качинцев 32А 146
Каспийская 120
Балонина 32В
Космонавтов 31А 43
51 Гвардейская 32 23
Танкистов 1А 34
Ряжская 54
Ткачева 13А 101
51 Гвардейская 18 104
Ткачева 43Б 23
51 Гвардейская 20 45
Танкистов 22 56
Ряжская 2 56
Хорошева 34Б 86
Космонавтов 34
Еременко 67 111
Савкина 16 12
Мира 13 112

20 rows in set (0.00 sec)

```
mysql> select name, amountdiscount
-> from promotions
-> union select name, cost from product;
```

name	amountdiscount
Новинка	10
Вечерняя	5
Скидки на весь ассортимент	15
Лето	20
Осенние новинки	10
Встречаем осень	15
Торты	25
Мафины	15
Скидки на весь ассотримент	10
Праздничный	15
Прага	2000
Медовик	800
Тирамису	1000
Маффин шоколадный	1500
Слойка груша-сыр	80
Печенье имбирное	120
Чизкейк клубничный	1800
Хлеб баварский	120
Печенье творожное	200
Слойка вишневая	100
Шарлотка с яблоками	320

21 rows in set (0.01 sec)

13. JOIN (20 шт.): INNER, OUTER (LEFT, RIGHT, FULL), CROSS

```
mysql> select product.name, product.cost from product
-> inner join productstopromotions on productstopromotions.productsid = product.id
-> inner join promotions on promotions.id =productstopromotions.promotionsid
-> where promotions.amountdiscount = 20;
+-----+
| name | cost |
+-----+
| Прага | 2000 |
+-----+
1 row in set (0.01 sec)

mysql> select promotions.name, promotions.amountdiscount from promotions
-> inner join productstopromotions on productstopromotions.productsid = productstopromotions.promotionsid
-> inner join product on product.id=productstopromotions.productsid
-> where product.cost <1500;
+-----+
| name | amountdiscount |
+-----+
| Новинка | 10 |
| Вечерняя | 5 |
| Скидки на весь ассортимент | 15 |
| Лето | 20 |
| Осенние новинки | 10 |
| Встречаем осень | 15 |
| Торты | 25 |
| Маффины | 15 |
| Скидки на весь ассотримент | 10 |
| Праздничный | 15 |
+-----+
10 rows in set (0.00 sec)
```

```
mysql> select product.name
-> from product
-> inner join productstostingcharacteristics on productstostingcharacteristics.productsid=product.id
-> inner join stringcharacteristics on stringcharacteristics.id=productstostingcharacteristics.stringcharacteristicsid
-> inner join productcharacteristics on productcharacteristics.id=stringcharacteristics.productcharacteristicsid
-> where stringcharacteristics.valueisstring='Мафины';
+-----+
| name |
+-----+
| Маффин шоколадный |
+-----+
1 row in set (0.00 sec)

mysql> select shops.address
-> from shops
-> inner join productstoshop on productstoshop.shopsid=shops.id
-> group by shops.address
-> order by sum(productstoshop.count);
+-----+
| address |
+-----+
| Качинцев 32А 146 |
| Рязская 54 |
| 51 Гвардейская 18 2 |
| Ткачева 13А 101 |
| Космонавтов 31А 43 |
| Танкистов 1А 34 |
| Хорошева 156 00 |
| Каспийская 120 |
+-----+
8 rows in set (0.01 sec)
```

```
mysql> select * from product
-> left outer join orderstoproducts on orderstoproducts.productsid=product.id
-> order by product.name;
```

	id	name	dateAndTime	weight	isnew	cost	id	ordersId	productsId	count
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500	4	4	4	4	12
2	Медовик	2020-10-20 17:15:04	1800	0	800	2	2	2	2	3
2	Медовик	2020-10-20 17:15:04	1800	0	800	9	9	9	2	1
8	Медовик	2020-10-20 18:04:45	2000	0	800	8	8	8	8	2
6	Печенье имбирное	2020-11-12 13:06:45	180	1	120	6	6	6	6	4
10	Печенье творожное	2020-10-20 14:34:27	160	0	200	10	10	10	10	1
1	Прага	2020-11-11 13:34:00	1900	1	2000	1	1	1	1	1
11	Слойка вишневая	2020-11-16 16:09:13	120	0	100	NULL	NULL	NULL	NULL	NULL
5	Слойка груша-сыр	2020-10-20 11:30:02	200	0	80	5	5	5	5	6
3	Тирамису	2020-10-20 17:44:20	1950	0	1000	3	3	3	3	6
9	Хлеб баварский	2020-10-20 13:34:45	400	1	120	NULL	NULL	NULL	NULL	NULL
7	Чизкейк клубничный	2020-10-20 17:50:15	1900	0	1800	7	7	7	7	3
12	Шарлотка с яблоками	2020-11-17 09:16:34	1000	1	320	NULL	NULL	NULL	NULL	NULL

```
13 rows in set (0.01 sec)
```

```
mysql> select * from product
-> right outer join orderstoproducts on orderstoproducts.productsid=product.id
-> order by product.name;;
```

	id	name	dateAndTime	weight	isnew	cost	id	ordersId	productsId	count
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500	4	4	4	4	12
2	Медовик	2020-10-20 17:15:04	1800	0	800	2	2	2	2	3
8	Медовик	2020-10-20 18:04:45	2000	0	800	8	8	8	8	2
2	Медовик	2020-10-20 17:15:04	1800	0	800	9	9	9	2	1
6	Печенье имбирное	2020-11-12 13:06:45	180	1	120	6	6	6	6	4
10	Печенье творожное	2020-10-20 14:34:27	160	0	200	10	10	10	10	1
1	Прага	2020-11-11 13:34:00	1900	1	2000	1	1	1	1	1
5	Слойка груша-сыр	2020-10-20 11:30:02	200	0	80	5	5	5	5	6
3	Тирамису	2020-10-20 17:44:20	1950	0	1000	3	3	3	3	6
7	Чизкейк клубничный	2020-10-20 17:50:15	1900	0	1800	7	7	7	7	3


```
mysql> select * from product
-> left outer join orderstoproducts on orderstoproducts.productsid=product.id
-> where product.isnew =1;
```

id	name	dateAndTime	weight	isnew	cost	id	ordersId	productsId	count
1	Прага	2020-11-11 13:34:00	1900	1	2000	1	1	1	1
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500	4	4	4	12
6	Печенье имбирное	2020-11-12 13:06:45	180	1	120	6	6	6	4
9	Хлеб баварский	2020-10-20 13:34:45	400	1	120	NULL	NULL	NULL	NULL
12	Шарлотка с яблоками	2020-11-17 09:16:34	1000	1	320	NULL	NULL	NULL	NULL

5 rows in set (0.00 sec)

```
mysql> select * from product
-> right outer join orderstoproducts on orderstoproducts.productsid=product.id
-> where product.isnew =1
-> order by product.name;
```

id	name	dateAndTime	weight	isnew	cost	id	ordersId	productsId	count
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500	4	4	4	12
6	Печенье имбирное	2020-11-12 13:06:45	180	1	120	6	6	6	4
1	Прага	2020-11-11 13:34:00	1900	1	2000	1	1	1	1

3 rows in set (0.00 sec)

```
mysql> select payments.id, payments.name, orders.dateandtimeorder, orders.paymentsid
-> from payments cross join orders;
```

id	name	dateandtimeorder	paymentsid
1	Наличными	2020-04-05 13:34:09	1
2	Карта	2020-04-05 13:34:09	1
3	Перевод на номер телефона	2020-04-05 13:34:09	1
1	Наличными	2020-11-23 15:43:56	2
2	Карта	2020-11-23 15:43:56	2
3	Перевод на номер телефона	2020-11-23 15:43:56	2
1	Наличными	2020-06-11 18:07:45	1
2	Карта	2020-06-11 18:07:45	1
3	Перевод на номер телефона	2020-06-11 18:07:45	1
1	Наличными	2020-11-14 19:30:51	1
2	Карта	2020-11-14 19:30:51	1
3	Перевод на номер телефона	2020-11-14 19:30:51	1
1	Наличными	2020-10-16 11:10:23	3
2	Карта	2020-10-16 11:10:23	3
3	Перевод на номер телефона	2020-10-16 11:10:23	3
1	Наличными	2020-03-23 19:17:54	2
2	Карта	2020-03-23 19:17:54	2
3	Перевод на номер телефона	2020-03-23 19:17:54	2
1	Наличными	2020-11-10 10:09:23	1
2	Карта	2020-11-10 10:09:23	1
3	Перевод на номер телефона	2020-11-10 10:09:23	1
1	Наличными	2020-09-25 14:05:05	2
2	Карта	2020-09-25 14:05:05	2
3	Перевод на номер телефона	2020-09-25 14:05:05	2
1	Наличными	2020-02-15 15:05:15	3
2	Карта	2020-02-15 15:05:15	3
3	Перевод на номер телефона	2020-02-15 15:05:15	3
1	Наличными	2020-07-18 16:23:14	1
2	Карта	2020-07-18 16:23:14	1
3	Перевод на номер телефона	2020-07-18 16:23:14	1

30 rows in set (0.01 sec)

```
mysql> select * from product
-> inner join productstonumericalcharacteristics on productstonumericalcharacteristics.productsid = product.id
-> where productstonumericalcharacteristics.numericalcharacteristicsid < 5;
```

id	name	dateAndTime	weight	isnew	cost	id	productsId	numericalCharacteristicsId
10	Печенье творожное	2020-10-20 14:34:27	160	0	200	10	10	1
9	Хлеб баварский	2020-10-20 13:34:45	400	1	120	9	9	2
8	Медовик	2020-10-20 18:04:45	2000	0	800	8	8	3
7	Чизкейк клубничный	2020-10-20 17:50:15	1900	0	1800	7	7	4

4 rows in set (0.01 sec)

```
mysql> select * from product
-> inner join productstonumericalcharacteristics on productstonumericalcharacteristics.productsid = product.id
-> where productstonumericalcharacteristics.numericalcharacteristicsid >5;
```

id	name	dateAndTime	weight	isnew	cost	id	productsId	numericalCharacteristicsId
5	Слойка груша-сыр	2020-10-20 11:30:02	200	0	80	5	5	6
4	Маффин шоколадный	2020-11-12 15:38:45	800	1	1500	4	4	7
3	Тирамису	2020-10-20 17:44:20	1950	0	1000	3	3	8
2	Медовик	2020-10-20 17:15:04	1800	0	800	2	2	9
1	Прага	2020-11-11 13:34:00	1900	1	2000	1	1	10

5 rows in set (0.00 sec)

```
mysql> select productcharacteristics.name from productcharacteristics
-> inner join stringcharacteristics on stringcharacteristics.productcharacteristicsid = productcharacteristics.id
-> where valueisstring like '%й';
```

```
+-----+
| name |
+-----+
| Крем |
| Ганаш |
| Наполнение |
| Вид муки |
+-----+
```

4 rows in set (0.00 sec)

```
mysql> select productcharacteristics.name from productcharacteristics
-> left outer join stringcharacteristics on stringcharacteristics.productcharacteristicsid = productcharacteristics.id
-> where valueisstring like '%й';
```

```
+-----+
| name |
+-----+
| Крем |
| Ганаш |
| Наполнение |
| Вид муки |
+-----+
```

4 rows in set (0.00 sec)

```
mysql> select productcharacteristics.name from productcharacteristics
-> left outer join stringcharacteristics on stringcharacteristics.productcharacteristicsid = productcharacteristics.id;
```

```
+-----+
| name |
+-----+
| Начинка |
| Крем |
| Мука |
| Наполнение |
| Наполнение |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Ганаш |
| Посыпка |
| Вид муки |
| Вид муки |
| Количество сахара |
| Количество топпинга |
| Количество начинки |
| Количество наполнения |
| Количество крема |
+-----+
```

21 rows in set (0.00 sec)

```
mysql> select productcharacteristics.name from productcharacteristics
-> right outer join stringcharacteristics on stringcharacteristics.productcharacteristicsid = productcharacteristics.id;
```

```
+-----+
| name |
+-----+
| Начинка |
| Крем |
| Мука |
| Наполнение |
| Наполнение |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Тип продукта |
| Ганаш |
| Вид муки |
| Вид муки |
+-----+
```

15 rows in set (0.00 sec)

```
mysql> select * from shops
-> inner join productstoshop on productstoshop.shopsid=shops.id
-> where productstoshop.count =12;
+-----+-----+-----+-----+-----+
| id | address      | id | count | productsId | ShopsId |
+-----+-----+-----+-----+-----+
| 2 | Хорошева 156 80 | 1 | 12 | 6 | 2 |
| 4 | Каспийская 120 | 6 | 12 | 10 | 4 |
| 8 | Танкистов 1А 34 | 8 | 12 | 10 | 8 |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from shops
-> inner join productstoshop on productstoshop.shopsid=shops.id
-> where shops.id > 8
-> ;
+-----+-----+-----+-----+-----+
| id | address      | id | count | productsId | ShopsId |
+-----+-----+-----+-----+-----+
| 9 | Ряжская 54 | 9 | 3 | 1 | 9 |
| 10 | Ткачева 13А 101 | 3 | 6 | 4 | 10 |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> select * from shops
-> inner join productstoshop on productstoshop.shopsid=shops.id
-> inner join product on product.id=productstoshop.productsid
-> where product.isnew =1;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | address      | id | count | productsId | ShopsId | id | name | dateAndTime | weight | isnew | cost |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | Качинцев 32А 146 | 5 | 3 | 1 | 3 | 1 | Прага | 2020-11-11 13:34:00 | 1900 | 1 | 2000 |
| 9 | Ряжская 54 | 9 | 3 | 1 | 9 | 1 | Прага | 2020-11-11 13:34:00 | 1900 | 1 | 2000 |
| 1 | 51 Гвардейская 18 2 | 2 | 6 | 4 | 1 | 4 | Маффин шоколадный | 2020-11-12 15:38:45 | 800 | 1 | 1500 |
| 10 | Ткачева 13А 101 | 3 | 6 | 4 | 10 | 4 | Маффин шоколадный | 2020-11-12 15:38:45 | 800 | 1 | 1500 |
| 6 | Космонавтов 31А 43 | 10 | 6 | 4 | 6 | 4 | Маффин шоколадный | 2020-11-12 15:38:45 | 800 | 1 | 1500 |
| 2 | Хорошева 156 80 | 1 | 12 | 6 | 2 | 6 | Печенье имбирное | 2020-11-12 13:06:45 | 180 | 1 | 120 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> select product.name, product.cost from product
-> inner join productstoshop on productstoshop.productsid=product.id
-> inner join shops on shops.id=productstoshop.shopsid
-> where shops.address like 'К%';
-> ;
+-----+-----+
| name | cost |
+-----+-----+
| Прага | 2000 |
| Печенье творожное | 200 |
| Слойка груша-сыр | 80 |
| Маффин шоколадный | 1500 |
+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> select * from shops
-> left join productstoshop on productstoshop.shopsid=shops.id
-> where shops.id > 8;
+-----+-----+-----+-----+-----+
| id | address      | id | count | productsId | ShopsId |
+-----+-----+-----+-----+-----+
| 9 | Ряжская 54 | 9 | 3 | 1 | 9 |
| 10 | Ткачева 13А 101 | 3 | 6 | 4 | 10 |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

1. LIMIT (3 шт.)

```
mysql> select * from product
-> order by name
-> limit 5;
+-----+-----+-----+-----+-----+
| id | name | dateAndTime | weight | isnew | cost |
+-----+-----+-----+-----+-----+
| 4 | Маффин шоколадный | 2020-11-12 15:38:45 | 800 | 1 | 1500 |
| 2 | Медовик | 2020-10-20 17:15:04 | 1800 | 0 | 800 |
| 8 | Медовик | 2020-10-20 18:04:45 | 2000 | 0 | 800 |
| 6 | Печенье имбирное | 2020-11-12 13:06:45 | 180 | 1 | 120 |
| 10 | Печенье творожное | 2020-10-20 14:34:27 | 160 | 0 | 200 |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> select * from promotions
-> order by id
-> limit 3;
+-----+-----+-----+-----+-----+
| id | promocode | dateStart | dateEnd | name | amountDiscount |
+-----+-----+-----+-----+-----+
| 1 | ABC87 | 2020-12-03 | 2020-12-14 | Новинка | 10 |
| 2 | J87J | 2020-01-14 | 2020-01-29 | Вечерняя | 5 |
| 3 | Yf09 | 2020-04-05 | 2020-04-10 | Скидки на весь ассортимент | 15 |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select promotions.name, sum(promotions.amountdiscount) as 'Итого'
-> from promotions
-> group by promotions.name
-> order by sum(promotions.amountdiscount)
-> limit 3;
```

name	Итого
Вечерняя	5
Новинка	10
Осенние новинки	10

2 rows in set (0.00 sec)