

Домашнее задание 2 (vo_HW)

Тема: Основные операторы PostgreSQL.

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1. Создаем таблицы с заданными структурами и загружаем данные из csv-файлов.

```
CREATE TABLE customer (  
    customer_id int4  
    ,first_name varchar(50)  
    ,last_name varchar(50)  
    ,gender varchar(30)  
    ,DOB varchar(50)  
    ,job_title varchar(50)  
    ,job_industry_category varchar(50)  
    ,wealth_segment varchar(50)  
    ,deceased_indicator varchar(50)  
    ,owns_car varchar(30)  
    ,address varchar(50)  
    ,postcode varchar(30)  
    ,state varchar(30)  
    ,country varchar(30)  
    ,property_valuation int4  
    ,UNIQUE("customer_id")  
)  
  
CREATE TABLE transaction (  
    transaction_id int4  
    ,product_id int4  
    ,customer_id int4  
    ,transaction_date varchar(30)  
    ,online_order varchar(30)  
    ,order_status varchar(30)  
    ,brand varchar(30)  
    ,product_line varchar(30)  
    ,product_class varchar(30)  
    ,product_size varchar(30)  
    ,list_price float4  
    ,standard_cost float4  
    ,UNIQUE("transaction_id")  
    ,FOREIGN KEY ("customer_id") REFERENCES customer("customer_id")  
)
```

2. Выполнить следующие запросы:

- (1 балл) Вывести все уникальные бренды, у которых стандартная стоимость выше 1500 долларов.

```
SELECT DISTINCT brand
FROM transaction
WHERE standard_cost > 1500;
```

The screenshot shows a SQL query editor with the following query:

```
SELECT DISTINCT brand
FROM transaction
WHERE standard_cost > 1500;
```

Below the query editor, there is a tab labeled "transaction 1" and a table with the following data:

	brand
1	OHM Cycles
2	Trek Bicycles
3	Solex
4	Giant Bicycles

- (1 балл) Вывести все подтвержденные транзакции за период '2017-04-01' по '2017-04-09' включительно.

```
SELECT *
FROM transaction
WHERE order_status = 'Approved'
AND transaction_date >= '2017-04-01'
AND transaction_date <= '2017-04-09'
```

The screenshot shows a SQL query editor with the following query:

```
SELECT *
FROM transaction
WHERE order_status = 'Approved'
AND transaction_date >= '2017-04-01'
AND transaction_date <= '2017-04-09';
```

Below the query editor, there is a tab labeled "transaction 1" and a table with the following data:

	transaction_id	product_id	customer_id	transaction_date	online_order	order_status	brand	product_line
520	19 418	46	182	:017-04-04 00:00:00.000	True	Approved	Solex	Standard
521	19 424	45	1 367	:017-04-06 00:00:00.000	False	Approved	Solex	Standard
522	19 541	90	1 084	:017-04-08 00:00:00.000	False	Approved	Norco Bicycles	Standard
523	19 546	74	356	:017-04-06 00:00:00.000	False	Approved	WeareA2B	Standard
524	19 556	28	1 992	:017-04-09 00:00:00.000	True	Approved	Norco Bicycles	Standard
525	19 575	35	1 766	:017-04-06 00:00:00.000	True	Approved	Trek Bicycles	Standard
526	19 628	22	2 497	:017-04-07 00:00:00.000	True	Approved	WeareA2B	Standard
527	19 655	0	336	:017-04-09 00:00:00.000	True	Approved	Norco Bicycles	Standard
528	19 853	7	3 072	:017-04-02 00:00:00.000	False	Approved	Trek Bicycles	Road
529	19 899	57	325	:017-04-06 00:00:00.000	False	Approved	WeareA2B	Touring
530	19 968	0	2 751	:017-04-06 00:00:00.000	False	Approved	WeareA2B	Standard
531	19 988	0	13	:017-04-05 00:00:00.000	True	Approved	Norco Bicycles	Road

At the bottom of the screenshot, there is a status bar that reads: "531 строк получено - 0,007s (0,001s получ.), 2024-02-11 в 22:35:54".

- (1 балл) Вывести все профессии у клиентов из сферы IT или Financial Services, которые начинаются с фразы 'Senior'.

```
SELECT DISTINCT job_title
FROM customer
WHERE job_industry_category IN ('IT', 'Financial Services')
AND job_title LIKE 'Senior%';
```

The screenshot shows a SQL query editor with the following query:

```
SELECT DISTINCT job_title
FROM customer
WHERE job_industry_category IN ('IT', 'Financial Services')
AND job_title LIKE 'Senior%';
```

Below the query editor, a results table is displayed. The table has a single column labeled 'job_title' and contains 6 rows of data. The table is titled 'customer 1'.

job_title
Senior Cost Accountant
Senior Developer
Senior Editor
Senior Financial Analyst
Senior Quality Engineer
Senior Sales Associate

At the bottom of the interface, there is a status bar showing the number of rows returned and the execution time: "6 строк получено - 0,004s, 2024-02-11 в 22:39:10".

- (1 балл) Вывести все бренды, которые закупают клиенты, работающие в сфере Financial Services

```
SELECT DISTINCT brand
FROM customer
JOIN transaction ON customer.customer_id = transaction.customer_id
WHERE customer.job_industry_category = 'Financial Services';
```

```
SELECT DISTINCT brand
FROM customer
JOIN transaction ON customer.customer_id = transaction.customer_id
WHERE customer.job_industry_category = 'Financial Services';
```

transaction 1 ×

SELECT DISTINCT brand FROM customer JK Введите SQL выражение чтобы отфильтровать ре.

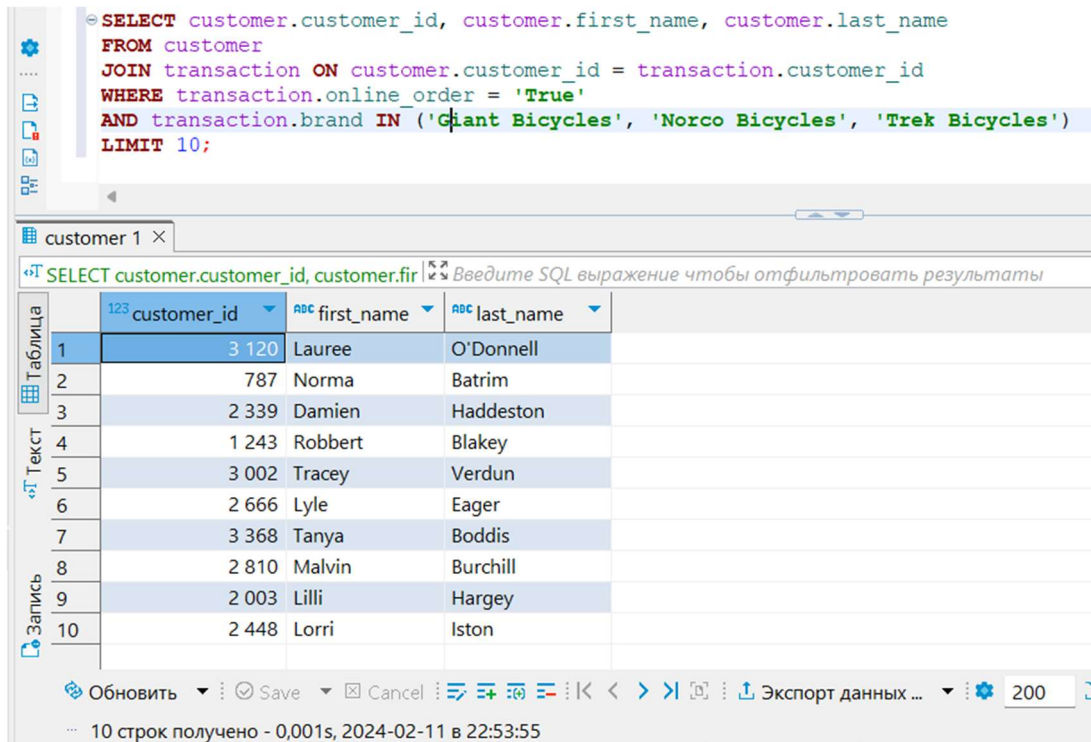
	ABC brand
1	Trek Bicycles
2	WeareA2B
3	
4	Solex
5	Giant Bicycles
6	OHM Cycles
7	Norco Bicycles

Обновить Save Cancel Экспорт данных ...

7 строк получено - 0,007s, 2024-02-11 в 22:46:34

- (1 балл) Вывести 10 клиентов, которые оформили онлайн-заказ продукции из брендов 'Giant Bicycles', 'Norco Bicycles', 'Trek Bicycles'.

```
SELECT customer.customer_id, customer.first_name, customer.last_name
FROM customer
JOIN transaction ON customer.customer_id = transaction.customer_id
WHERE transaction.online_order = 'True'
AND transaction.brand IN ('Giant Bicycles', 'Norco Bicycles', 'Trek Bicycles')
LIMIT 10;
```



customer 1 x

SELECT customer.customer_id, customer.first_name, customer.last_name
FROM customer
JOIN transaction ON customer.customer_id = transaction.customer_id
WHERE transaction.online_order = 'True'
AND transaction.brand IN ('Giant Bicycles', 'Norco Bicycles', 'Trek Bicycles')
LIMIT 10;

Введите SQL выражение чтобы отфильтровать результаты

	customer_id	first_name	last_name
1	3 120	Lauree	O'Donnell
2	787	Norma	Batrim
3	2 339	Damien	Haddeston
4	1 243	Robbert	Blakey
5	3 002	Tracey	Verdun
6	2 666	Lyle	Eager
7	3 368	Tanya	Boddis
8	2 810	Malvin	Burchill
9	2 003	Lilli	Hargey
10	2 448	Lorri	Iston

Обновить Save Cancel Экспорт данных ... 200

10 строк получено - 0,001s, 2024-02-11 в 22:53:55

- (1 балл) Вывести всех клиентов, у которых нет транзакций.

```
SELECT *
FROM customer
WHERE customer_id NOT IN (SELECT DISTINCT customer_id FROM
transaction);
```

SELECT *
FROM customer
WHERE customer_id NOT IN (SELECT DISTINCT customer_id FROM transaction);

customer 1 ×

SELECT * FROM customer WHERE custome Введите SQL выражение чтобы отфильтровать результат

	customer_id	first_name	last_name	gender	dob	job_title
499	3 992	Germain	Tireman	Male	1980-04-02	Database Admi
500	3 993	Andi	Dumelow	Female	1974-12-05	Librarian
501	3 994	Stephie	Byars	Female	1989-04-07	Structural Anal
502	3 995	Rusty	Iapico	Male	1975-12-12	Staff Scientist
503	3 996	Rosalia	Halgarth	Female	1975-08-09	VP Product Ma
504	3 997	Blanch	Nisuis	Female	2001-07-13	Statistician II
505	3 998	Sarene	Woolley	U		Assistant Mana
506	3 999	Patrizius		Male	1973-10-24	
507	4 000	Kippy	Oldland	Male	1991-11-05	Software Engin

Обновить Save Cancel Экспорт данных ...

507 строк получено - 0,006s, 2024-02-11 в 22:56:30

- (2 балла) Вывести всех клиентов из IT, у которых транзакции с максимальной стандартной стоимостью.

```
SELECT customer.customer_id, customer.first_name, customer.last_name
FROM customer
INNER JOIN transaction ON customer.customer_id =
transaction.customer_id
WHERE customer.job_industry_category = 'IT'
AND transaction.standard_cost = (
    SELECT MAX(standard_cost)
    FROM transaction
)
ORDER BY customer.customer_id;
```

The screenshot shows a database query editor with a SQL query in the top pane and a table view of the results in the bottom pane. The query is a complex join between the 'customer' and 'transaction' tables, filtering for IT customers with the highest standard cost. The results table has 9 rows, each representing a customer with their ID, first name, and last name.

customer 1 ×

SELECT customer.customer_id, customer.first_name, customer.last_name
FROM customer
INNER JOIN transaction ON customer.customer_id = transaction.customer_id
WHERE customer.job_industry_category = 'IT'
AND transaction.standard_cost = (
 SELECT MAX(standard_cost)
 FROM transaction
)
ORDER BY customer.customer_id;

customer 1 ×

SELECT customer.customer_id, customer.first_name, customer.last_name

	customer_id	first_name	last_name
1	34	Jephthah	Bachmann
2	893	Gibby	Fearnley
3	975	Goldarina	Rzehorz
4	1 672	Sharla	Creebo
5	1 773	Nickolas	Guittet
6	1 918	Devin	Sandeson
7	2 913	Padraic	Bonnar
8	3 151	Thorn	Choffin
9	3 473	Sanderson	Alloway

Обновить Save Cancel Экспорт данных ...

9 строк получено - 0,012s, 2024-02-11 в 23:00:51

- (2 балла) Вывести всех клиентов из сферы IT и Health, у которых есть подтвержденные транзакции за период '2017-07-07' по '2017-07-17'.

```
SELECT customer.customer_id, customer.first_name, customer.last_name
FROM customer
INNER JOIN transaction ON customer.customer_id =
transaction.customer_id
WHERE customer.job_industry_category IN ('IT', 'Health')
AND transaction.order_status = 'Approved'
AND transaction.transaction_date >= '2017-07-07'
AND transaction.transaction_date <= '2017-07-17';
```

The screenshot shows a database query tool interface. The top panel displays the SQL query, which is identical to the one in the previous block. Below the query editor, there is a tab labeled "customer 1". The main area shows the results of the query in a table view. The table has four columns: "customer_id", "first_name", and "last_name". The results are displayed in a grid with row numbers 115 through 124. The row with customer_id 2442 (Odie Enrrico) is highlighted in blue. At the bottom, a status bar indicates "124 строк получено - 0,007s, 2024-02-11 в 23:03:43".

	customer_id	first_name	last_name
115	3 360	Joelie	Sherlaw
116	722	Stewart	Brosoli
117	526	Ardelle	
118	1 683	Brenn	Bacon
119	3 365	Karlens	Chaffyn
120	1 174	Shellysheldon	Gooderridge
121	1 044	Frederico	Whilder
122	1 862	Daron	Umpleby
123	712	Norine	Antonik
124	2 442	Odie	Enrrico

Обновить Save Cancel Экспорт данных ... 20

... 124 строк получено - 0,007s, 2024-02-11 в 23:03:43