

запрос с фильтрацией ( WHERE ) и сортировкой ( ORDER BY );

Query

Query History

```

1  SELECT
2      order_id,
3      customer_id,
4      order_status,
5      order_purchase_timestamp,
6      order_delivered_customer_date
7  FROMolist_orders
8  WHERE order_status = 'delivered'
9      AND order_purchase_timestamp >= '2017-01-01'
10 ORDER BY order_purchase_timestamp DESC
11 LIMIT 15;

```

Data Output

Messages

Notifications

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SQL

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	order_id [PK] character varying (50)	customer_id character varying (50)	order_status character varying (20)	order_purchase_timestamp timestamp without time zone	order_delivered_customer_date timestamp without time zone
1	35a972d7f8436f405b56e36add1a7140	898b7fee99c4e42170ab69ba59be0a...	delivered	2018-08-29 15:00:37	2018-08-30 16:23:36
2	03ef5dedbe7492bdae72eec50764c3f	496630b6740bcca28fce9ba50d8a26...	delivered	2018-08-29 14:52:00	2018-08-30 16:36:59
3	168626408cb32af0ffaf76711caae1dc	6e353700bc7bcd6ebc15d6de16d70...	delivered	2018-08-29 14:18:28	2018-08-30 16:52:31
4	0b223d92c27432930dfe407c6aea30...	e60df9449653a95af4549bbfcb18a6eb	delivered	2018-08-29 14:18:23	2018-08-30 16:24:55
5	52018484704db3661b98ce838612b5...	e450a297a7bc6839ceb0cf1a2377fa...	delivered	2018-08-29 12:25:59	2018-08-30 22:48:27
6	d03ca98f59480e7e76c71fa83ecd8fb6	56b1ac2855cc6d7950b4ffa6a9b41b...	delivered	2018-08-29 11:06:11	2018-08-30 23:56:54
7	d70442bc5e3cb7438da497cc6a210f...	10a79ef2783cae3d8d678e85fde235...	delivered	2018-08-29 10:22:35	2018-08-30 16:03:19
8	912859fef5a0bd5059b6d48fa79d121a	b8c19e70d00f6927388e4f31c923d7...	delivered	2018-08-29 09:48:09	2018-08-30 23:28:52
9	fb393211459aac00af932cd7ab4fa2cc	54365416b7ef5599f54a6c7821d5d2...	delivered	2018-08-29 09:14:11	2018-08-30 13:03:28

Total rows: 15

Query complete 00:00:00.183

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```
SELECT * FROM table LIMIT 10;
```

Query Query History

```

1 SELECT * FROM olist_customers LIMIT 10;
2 SELECT * FROM olist_orders LIMIT 10;
3 SELECT * FROM olist_products LIMIT 10;
4 SELECT * FROM olist_sellers LIMIT 10;
5 SELECT * FROM olist_order_items LIMIT 10;
6 SELECT * FROM olist_order_payments LIMIT 10;
7 SELECT * FROM olist_order_reviews LIMIT 10;

```

Data Output Messages Notifications

Showing rows: 1 to 10 Page No: 1

	order_id [PK] character varying (50)	payment_sequential [PK] integer	payment_type character varying (20)	payment_installments integer	payment_value numeric (10,2)
1	b81ef226f3fe1789b1e8b2acac839d17	1	credit_card	8	99.33
2	a9810da82917af2d9aefd1278f1dcfa0	1	credit_card	1	24.39
3	25e8ea4e93396b6fa0d3dd708e76c1bd	1	credit_card	1	65.71
4	ba78997921bbcdc1373bb41e913ab953	1	credit_card	8	107.78
5	42fdf880ba16b47b59251dd489d4441a	1	credit_card	2	128.45
6	298fcd1f73eb413e4d26d01b25bc1cd	1	credit_card	2	96.12
7	771ee386b001f06208a7419e4fc1bbd7	1	credit_card	1	81.16
8	3d7239c394a212faae122962df514ac7	1	credit_card	3	51.84
9	1f78449c87a54faf9e96e88ba1491fa9	1	credit card	6	341.09

Total rows: 10 Query complete 00:00:00.253

агрегации ( GROUP BY ) с функциями COUNT , AVG , MIN , MAX ;

Query Query History

```

1 SELECT
2     order_status,
3     COUNT(*) as order_count,
4     ROUND(AVG(EXTRACT(EPOCH FROM (order_delivered_customer_date - order_purchase_timestamp)) / 86400), 2) as avg_delivery_days,
5     MIN(EXTRACT(EPOCH FROM (order_delivered_customer_date - order_purchase_timestamp)) / 86400) as min_delivery_days,
6     MAX(EXTRACT(EPOCH FROM (order_delivered_customer_date - order_purchase_timestamp)) / 86400) as max_delivery_days
7 FROM olist_orders
8 WHERE order_delivered_customer_date IS NOT NULL
9 GROUP BY order_status
10 ORDER BY order_count DESC;

```

Data Output Messages Notifications

Showing rows: 1 to 2 Page No: 1 of 1

	order_status character varying (20)	order_count bigint	avg_delivery_days numeric	min_delivery_days numeric	max_delivery_days numeric
1	delivered	96470	12.56	0.53341435185185185185	209.6286111111111111
2	canceled	6	20.36	7.0101967592592593	35.5811689814814815

минимум один JOIN между таблицами.

QueryQuery History

1 SELECT

2 o.order\_id,

3 o.order\_status,

4 o.order\_purchase\_timestamp,

5 c.customer\_city,

6 c.customer\_state,

7 s.seller\_city,

8 s.seller\_state,

9 SUM(oi.price) as total\_order\_value,

10 SUM(oi.freight\_value) as total\_freight\_value

11 FROMolist\_orders o

12 JOINolist\_customers c ON o.customer\_id = c.customer\_id

13 JOINolist\_order\_items oi ON o.order\_id = oi.order\_id

14 JOINolist\_sellers s ON oi.seller\_id = s.seller\_id

15 WHERE o.order\_status = 'delivered'

16 GROUP BY o.order\_id, o.order\_status, o.order\_purchase\_timestamp, c.customer\_city, c.customer\_state, s.seller\_city, s.seller\_st

17 ORDER BY total\_order\_value DESC

18 LIMIT 15;

QueryQuery History

1 SELECT

2 o.order\_id,

Data OutputMessagesNotifications

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	order_id character varying (50)	order_status character varying (20)	order_purchase_timestamp timestamp without time zone	customer_city character varying (100)	customer_state character varying (2)	seller_city character varying (100)	seller_s charact
1	03caa2c082116e1d31e7e9ae3700...	delivered	2017-09-29 15:24:52	rio de janeiro	RJ	sao paulo	SP
2	736e1922ae60d0d6a89247b851902...	delivered	2018-07-15 14:49:44	vila velha	ES	sao paulo	SP
3	0812eb902a67711a1cb742b3cdaa6...	delivered	2017-02-12 20:37:36	campo grande	MS	sao paulo	SP
4	fefacc66af859508bf1a7934eab1e97f	delivered	2018-07-25 18:10:17	vitoria	ES	londrina	PR
5	f5136e38d1a14a4dbd87dff67da827...	delivered	2017-05-24 18:14:34	marilia	SP	goiania	GO
6	2cc9089445046817a7539d90805e6...	delivered	2017-11-24 11:03:35	divinopolis	MG	porto alegre	RS
7	a96610ab360d42a2e5335a3998b47...	delivered	2017-04-01 15:58:40	araruama	RJ	limeira	SP
8	199af31afc78c699f0dbf71fb178d4d4	delivered	2017-04-18 18:50:13	maua	SP	limeira	SP
9	8dbc85d1447242f3b127dda390d56...	delivered	2018-06-22 12:23:19	joao pessoa	PB	guanambi	BA
10	d2f270487125ddc41fd134c4003ad...	delivered	2018-05-31 22:57:07	niteroi	RJ	nova friburgo	RJ
11	426a9742b533fc6fed17d1fd6d143d...	delivered	2018-08-03 21:10:16	sao paulo	SP	rio de janeiro	RJ
12	68101694e5c5dc7330c91e1bbc362...	delivered	2018-03-29 10:31:29	bom jesus do galho	MG	sao paulo	SP
13	b239ca7cd485940b31882363b52e6...	delivered	2018-07-29 08:39:48	nova lima	MG	sao paulo	SP
14	86c4eab1571921a6a6e248ed312f5...	delivered	2017-03-18 20:08:04	sao paulo	SP	sumare	SP
15	80dfedb6d17bf23539beef3c768f4d7	delivered	2017-04-18 20:37:26	brasilia	DF	limeira	SP

1)общее количество проданных товаров по категориям










postgres/postgres@assignment\_1

2) Анализ сезонности и трендов продаж

Query Query History

```
1  SELECT
2      EXTRACT(YEAR FROM o.order_purchase_timestamp) as year,
3      EXTRACT(MONTH FROM o.order_purchase_timestamp) as month,
4      COUNT(DISTINCT o.order_id) as order_count,
5      ROUND(SUM(oi.price), 2) as monthly_revenue,
6      ROUND(AVG(oi.price), 2) as avg_order_value
7  FROM olist_orders o
8  JOIN olist_order_items oi ON o.order_id = oi.order_id
9  WHERE o.order_purchase_timestamp IS NOT NULL
10 GROUP BY year, month
11 ORDER BY year, month;
```

Data Output Messages Notifications



SQL

Showing

	year numeric	month numeric	order_count bigint	monthly_revenue numeric	avg_order_value numeric
1	2016	9	3	267.36	44.56
2	2016	10	308	49507.66	136.38
3	2016	12	1	10.90	10.90
4	2017	1	789	120312.87	125.98
5	2017	2	1733	247303.02	126.76
6	2017	3	2641	374344.30	124.78
7	2017	4	2391	359927.23	134.10
8	2017	5	3660	506071.14	122.36
9	2017	6	3217	433038.60	120.86
10	2017	7	3969	498031.48	110.21
11	2017	8	4293	573971.68	116.90
12	2017	9	4040	604401.60	100.05

Total rows: 24

Query complete 00:00:03.227

### 3) Определяет самых успешных продавцов

Query	Query History
<pre>3      s.seller_city, 4      s.seller_state, 5      COUNT(DISTINCT oi.order_id) as total_orders, 6      ROUND(SUM(oi.price), 2) as total_revenue, 7      ROUND(AVG(oi.price), 2) as avg_order_value, 8      ROUND(SUM(oi.freight_value), 2) as total_freight 9  FROM olist_sellers s 10 JOIN olist_order_items oi ON s.seller_id = oi.seller_id 11 GROUP BY s.seller_id, s.seller_city, s.seller_state 12 ORDER BY total_revenue DESC 13 LIMIT 15;</pre>	
Data Output	Messages Notifications
Showing rows: 1 to 15 Page No: 1 of 1	
seller_id	seller_city
4869f7a5dfa277a7dca6462dcf3b52...	guariba
53243585a1d6dc2643021fd1853d8...	lauro de freitas
4a3ca9315b744ce9f8e9374361493...	ibitinga
fa1c13f2614d7b5c4749cbc52fecda...	sumare
7c67e1448b00f6e969d365cea6b01...	itaquaquecetuba
7e93a43ef30c4f03f38b393420bc75...	barueri
da8622b14eb17ae2831f4ac5b9dab...	piracicaba
7a67c85e85bb2ce8582c35f2203ad...	sao paulo
1025f0e2d44d7041d6cf58b6550e0...	sao paulo
955fee9216a65b617aa5c0531780c...	sao paulo
46dc3b2cc0980fb8ec44634e21d27...	rio de janeiro

### 4) Распределение платежей по типам и анализ среднего чека

Query	Query History
<pre>1 SELECT 2     payment_type, 3     COUNT(*) as payment_count, 4     ROUND(COUNT(*) * 100.0 / (SELECT COUNT(*) FROM olist_order_payments), 2) as percentage, 5     ROUND(AVG(payment_value), 2) as avg_payment_value, 6     ROUND(MAX(payment_value), 2) as max_payment_value, 7     ROUND(SUM(payment_value), 2) as total_payment_value 8  FROM olist_order_payments 9  GROUP BY payment_type 10 ORDER BY payment_count DESC;</pre>	
Data Output	Messages Notifications
Showing rows: 1 to 5 Page No: 1	
payment_type	payment_count
credit_card	76795
boleto	19784
voucher	5775
debit_card	1529
not_defined	3

### 5) Анализ эффективности доставки в разных штатах

Query

Query History

1

SELECT

2

c.customer\_state,

3

COUNT(o.order\_id) as order\_count,

4

ROUND(AVG(EXTRACT(EPOCH FROM (o.order\_delivered\_customer\_date - o.order\_purchase\_timestamp)) / 86400), 2) as avg\_deli

5

ROUND(MIN(EXTRACT(EPOCH FROM (o.order\_delivered\_customer\_date - o.order\_purchase\_timestamp)) / 86400), 2) as min\_deli

6

ROUND(MAX(EXTRACT(EPOCH FROM (o.order\_delivered\_customer\_date - o.order\_purchase\_timestamp)) / 86400), 2) as max\_deli

7

FROM olist\_orders o

8

JOIN olist\_customers c ON o.customer\_id = c.customer\_id

9

WHERE o.order\_status = 'delivered'

10

AND o.order\_delivered\_customer\_date IS NOT NULL

11

GROUP BY c.customer\_state

12

HAVING COUNT(o.order\_id) >= 50

13

ORDER BY avg\_delivery\_days ASC;

Data Output

Messages

Notifications

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	customer_state character varying (2)	order_count bigint	avg_delivery_days numeric	min_delivery_days numeric	max_delivery_days numeric
1	SP	40494	8.76	0.78	191.46
2	PR	4923	11.99	1.09	97.47
3	MG	11354	12.01	1.05	187.74
4	DF	2080	12.97	1.27	68.62
5	SC	3546	14.95	1.54	98.18
6	RS	5344	15.30	1.07	186.24
7	RJ	12350	15.31	0.53	208.35
8	GO	1957	15.61	1.26	181.06

6) Среднее количество товаров в заказе и средняя стоимость

Query Query History

1

SELECT

2

COUNT(oi.order\_item\_id) as total\_items,

3

COUNT(DISTINCT oi.order\_id) as total\_orders,

4

ROUND(COUNT(oi.order\_item\_id) \* 1.0 / COUNT(DISTINCT oi.order\_id), 2) as avg\_items\_per\_order,

5

ROUND(AVG(oi.price), 2) as avg\_item\_price,

6

ROUND(AVG(oi.freight\_value), 2) as avg\_freight\_value

7

FROM olist\_order\_items oi;

Data Output Messages Notifications

Showing rows: 1 to 1

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	total_items bigint	total_orders bigint	avg_items_per_order numeric	avg_item_price numeric	avg_freight_value numeric
1	112650	98666	1.14	120.65	19.99

7) В какое время дня совершается больше покупок





Query

Query History

```
1 WITH customer_orders AS (  
2     SELECT  
3         customer_id,  
4         COUNT(DISTINCT order_id) as order_count  
5     FROM olist_orders  
6     GROUP BY customer_id  
7 )  
8 SELECT  
9     CASE  
10        WHEN order_count = 1 THEN 'One-time'  
11        WHEN order_count = 2 THEN 'Returning (2)'  
12        WHEN order_count = 3 THEN 'Returning (3)'  
13        ELSE 'Loyal (4+)'  
14    END as customer_type,  
15    COUNT(customer_id) as customer_count,  
16    ROUND(COUNT(customer_id) * 100.0 / (SELECT COUNT(*) FROM customer_orders), 2) as percentage  
17 FROM customer_orders  
18 GROUP BY customer_type  
19 ORDER BY customer_count DESC;
```

Data Output

Messages

Notifications

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9) сколько заказов получают отзывы

Query

Query History

1

SELECT

2

CASE

3

WHEN r.review\_id IS NOT NULL THEN 'With Review'

4

ELSE 'Without Review'

5

END as review\_status,

6

COUNT(DISTINCT o.order\_id) as order\_count,

7

ROUND(COUNT(DISTINCT o.order\_id) \* 100.0 / (SELECT COUNT(\*) FROM olist\_orders WHERE order\_status =

8

ROUND(AVG(oi.price), 2) as avg\_order\_value

9

FROM olist\_orders o

10

LEFT JOIN olist\_order\_reviews r ON o.order\_id = r.order\_id

11

JOIN olist\_order\_items oi ON o.order\_id = oi.order\_id

12

WHERE o.order\_status = 'delivered'

13

GROUP BY review\_status;

Data Output

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Showing rows: 1 to 1

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	review_status text	order_count bigint	percentage numeric	avg_order_value numeric
1	Without Review	96478	100.00	119.98

10) Топ-10 продавцов по количеству продаж

Query Query History

```
1 SELECT
2     s.seller_id,
3     s.seller_city,
4     s.seller_state,
5     COUNT(DISTINCT oi.order_id) AS total_orders,
6     COUNT(oi.order_item_id) AS total_items_sold,
7     ROUND(SUM(oi.price), 2) AS total_revenue
8 FROM olist_order_items oi
9 JOIN olist_sellers s ON oi.seller_id = s.seller_id
10 GROUP BY s.seller_id, s.seller_city, s.seller_state
11 ORDER BY total_orders DESC
12 LIMIT 10;
```

Data Output Messages Notifications

	seller_id [PK] character varying (50)	seller_city character varying (100)	seller_state character varying (2)	total_orders bigint	total_items_sold bigint	total_revenue numeric
1	6560211a19b47992c3666cc44a7e94c0	sao paulo	SP	1854	2033	123304.83
2	4a3ca9315b744ce9f8e9374361493884	ibitinga	SP	1806	1987	200472.92
3	cc419e0650a3c5ba77189a1882b7556a	santo andre	SP	1706	1775	104288.42
4	1f50f920176fa81dab994f9023523100	sao jose do rio preto	SP	1404	1931	106939.21
5	da8622b14eb17ae2831f4ac5b9dab84a	piracicaba	SP	1314	1551	160236.57
6	955fee9216a65b617aa5c0531780ce60	sao paulo	SP	1287	1499	135171.70
7	7a67c85e85bb2ce8582c35f2203ad736	sao paulo	SP	1160	1171	141745.53
8	ea8482cd71df3c1969d7b9473ff13abc	sao paulo	SP	1146	1203	37177.52
9	4869f7a5dfa277a7dca6462dcf3b52b2	guariba	SP	1132	1156	229472.63
10	3d871de0142ce09b7081e2b9d1733cb1	campo limpo paulista	SP	1080	1147	94914.20