Table customer

	customer_id	first_name	last_name	gender	dob	job_title	job_industry_category	wealth_segment	deceased_indicator	owns_car	address	postcode
1	1	Laraine	Medendorp	F	1953-10-12	Executive Secretary	Health	Mass Customer	N	Yes	060 Morning Avenue	2016
2	2	Eli	Bockman	Male	1980-12-16	Administrative Officer	Financial Services	Mass Customer	N	Yes	6 Meadow Vale Court	2153
3	3	Arlin	Dearle	Male	1954-01-20	Recruiting Manager	Property	Mass Customer	N	Yes	0 Holy Cross Court	4211
4	4	Talbot	[NULL]	Male	1961-10-03	[NULL]	IT	Mass Customer	N	No	17979 Del Mar Point	2448
5	5	Sheila-kathryn	Calton	Female	1977-05-13	Senior Editor	n/a	Affluent Customer	N	Yes	9 Oakridge Court	3216
6	6	Curr	Duckhouse	Male	1966-09-16	[NULL]	Retail	High Net Worth	N	Yes	4 Delaware Trail	2210
7	7	Fina	Merali	Female	1976-02-23	[NULL]	Financial Services	Affluent Customer	N	Yes	49 Londonderry Lane	2650
8	8	Rod	Inder	Male	1962-03-30	Media Manager I	n/a	Mass Customer	N	No	97736 7th Trail	2023
9	9	Mala	Lind	Female	1973-03-10	Business Systems Development Analyst	Argiculture	Affluent Customer	N	Yes	93405 Ludington Park	3044
10	10	Fiorenze	Birdall	Female	1988-10-11	Senior Quality Engineer	Financial Services	Mass Customer	N	Yes	44339 Golden Leaf Alley	4557
11	11	Uriah	Bisatt	Male	1954-04-30	[NULL]	Property	Mass Customer	N	No	2 Sutherland Street	3799
12	12	Sawyere	Flattman	Male	1994-07-21	Nuclear Power Engineer	Manufacturing	Mass Customer	N	No	9 Mcbride Trail	2760
13	13	Gabriele	Norcross	Male	1955-02-15	Developer I	Financial Services	High Net Worth	N	Yes	9861 New Castle Avenue	2428
14	14	Rayshell	Kitteman	Female	1983-03-25	Account Executive	Financial Services	Affluent Customer	N	No	52 Moland Street	3331
15	15	Erroll	Radage	Male	2000-07-13	Junior Executive	Manufacturing	Mass Customer	N	No	82391 Kensington Lane	3058
16	16	Harlin	Parr	Male	1977-02-27	Media Manager IV	n/a	Mass Customer	N	Yes	092 2nd Alley	2135
17	17	Heath	Faraday	Male	1962-03-19	Sales Associate	n/a	Affluent Customer	N	Yes	59 Spaight Circle	2233
18	18	Marjie	Neasham	Female	1967-07-06	Professor	n/a	Affluent Customer	N	No	032 Bartelt Crossing	2444
19	19	Sorcha	Keyson	Female	2001-04-15	Geological Engineer	Manufacturing	High Net Worth	N	No	18 Jenna Center	2650
20	20	Basile	Firth	Male	1980-08-13	Project Manager	Manufacturing	Mass Customer	N	No	3 Cordelia Plaza	2153
21	21	Mile	Cammocke	Male	1980-09-20	Safety Technician I	Manufacturing	Affluent Customer	N	Yes	28 5th Center	4413
22	22	Deeanne	Durtnell	Female	1962-12-10	[NULL]	IT	Mass Customer	N	No	52 Carey Alley	4740
23	23	Olav	Polak	Male	1995-02-10	[NULL]	n/a	High Net Worth	N	Yes	96 Texas Plaza	3218
24	24	Kim	Skpsey	Female	1977-12-03	Research Assistant I	Argiculture	Mass Customer	N	Yes	48 Eagan Avenue	4868
25	25	Geoff	Assaf	Male	1976-12-02	Accounting Assistant III	Financial Services	Mass Customer	N	Yes	9 Buell Park	4116
26	26	Trixi	Ginnelly	Female	1978-06-10	Editor	Financial Services	Mass Customer	N	Yes	02663 Buell Parkway	2519
27	27	Garvin	Klees	Male	1978-09-25	Research Nurse	Health	Mass Customer	N	Yes	2294 Pleasure Place	2135
28	28	Fee	Zellmer	Male	1973-09-30	Senior Quality Engineer	Health	Affluent Customer	N	Yes	2951 Petterle Place	2756
29	29	Mona	Sancraft	Female	1968-06-22	Safety Technician III	Manufacturing	Mass Customer	N	No	63 Lukken Drive	2170
30	30	Darrick	Helleckas	Male	1961-10-18	[NULL]	IT	Affluent Customer	N	Yes	833 Luster Way	4005
31	31	Star	Praton	Female	1962-11-24	Staff Accountant III	Telecommunications	High Net Worth	N	Yes	34 Russell Plaza	4127
32	32	Marion	Vanichkin	Female	1995-04-20	Legal Assistant	Manufacturing	Affluent Customer	N	No	78 Del Sol Hill	2535
33	33	Ernst	Hacon	Male	1957-06-25	Product Engineer	n/a	Affluent Customer	N	Yes	54 Sage Plaza	4726
34	34	Jephthah	Bachmann	U	1843-12-21	Legal Assistant	IT	Affluent Customer	N	No	90 Lawn Parkway	4805
35	35	Margaretha	Strettle	Female	1963-09-28	Information Systems Manager	Health	High Net Worth	N	Yes	38726 Ilene Crossing	2212
36	36	Lurette	Stonnell	Female	1977-11-09	VP Quality Control	n/a	Affluent Customer	N	No	3496 Brown Drive	2207
37	37	Laurie	Dwerryhouse	Female	1985-12-22	Social Worker	Health	High Net Worth	N	No	7188 Cody Way	3350
38	38	Cordi	Merman	Female	1955-10-29	Senior Cost Accountant	Financial Services	Affluent Customer	N	No	1 Claremont Park	3931
39	39	Hunfredo	Smalley	Male	1979-04-16	Assistant Media Planner	Entertainment	Mass Customer	N	No	60 Eagan Circle	4018
40	40	Tomasine	Jerche	Female	1981-10-27	Payment Adjustment Coordinator	Manufacturing	Affluent Customer	N	No	89314 Eagle Crest Center	4670

Table order_items

	order_item_id	order_id	product_id	quantity	item_list_price_at_sale	item_standard_cost_at_sale
1	1	1	2	6	71.49	53.62
2	2	2	3	2	2,091.47	388.92
3	3	3	37	7	1,793.43	248.82
4	4	4	88	4	1,198.46	381.1
5	5	5	78	7	1,765.3	709.48
6	6	6	25	5	1,538.99	829.65
7	7	7	22	3	60.34	45.26
8	8	8	15	10	1,292.84	13.44
9	9	9	67	7	1,071.23	380.74
10	10	10	12	2	1,231.15	161.6
11	11	11	5	8	574.64	459.71
12	12	12	61	1	71.16	56.93
13	13	13	35	8	1,057.51	154.4
14	14	14	16	3	1,661.92	1,479.11
15	15	15	12	7	1,765.3	709.48
16	16	16	3	4	2,091.47	388.92
17	17	17	79	10	1,555.58	818.01
18	18	18	33	6	1,311.44	1,167.18
19	19	19	54	6	1,292.84	13.44
20	20	20	25	2	1,538.99	829.65
21	21	21	27	3	499.53	388.72
22	22	22	37	9	1,793.43	248.82
23	23	23	37	9	1,793.43	248.82
24	24	24	82	1	1,538.99	829.65
25	25	25	89	4	1,362.99	57.74
26	26	26	64	1	1,469.44	596.55
27	27	27	64	4	1,469.44	596.55
28	28	28	19	10	574.64	459.71
29	29	29	72	2	360.4	270.3
30	30	30	91	2	642.31	513.85
31	31	31	88	10	1,198.46	381.1
32	32	32	1	8	1,403.5	954.82
33	33	33	25	3	1,538.99	829.65
34	34	34	99	3	1,720.7	1,531.42
35	35	35	0	3	544.05	376.84
36	36	36	92	4	1,415.01	1,259.36
37	37	37	14	1	1,842.92	1,105.75
38	38	38	2	10	71.49	53.62
39	39	39	12	9	1,231.15	161.6
40	40	40	0	3	544.05	376.84

Table orders

	order_id	customer_id	order_date	online_order	order_status
1	1	2,950	2017-02-25	[ ]	Approved
2	2	3,120	2017-05-21	[v]	Approved
3	3	402	2017-10-16	[ ]	Approved
4	4	3,135	2017-08-31	[ ]	Approved
5	5	787	2017-10-01	[v]	Approved
6	6	2,339	2017-03-08	[v]	Approved
7	7	1,542	2017-04-21	[v]	Approved
8	8	2,459	2017-07-15	[ ]	Approved
9	9	1,305	2017-08-10	[ ]	Approved
10	10	3,262	2017-08-30	[v]	Approved
11	11	1,986	2017-01-17	[ ]	Approved
12	12	2,783	2017-01-05	[v]	Approved
13	13	1,243	2017-02-26	[v]	Approved
14	14	2,717	2017-09-10	[ ]	Approved
15	15	247	2017-06-11	[ ]	Approved
16	16	2,961	2017-10-10	[ ]	Approved
17	17	2,426	2017-04-03	[ ]	Approved
18	18	1,842	2017-06-02	[ ]	Approved
19	19	2,268	2017-04-06	[v]	Approved
20	20	3,002	2017-01-28	[v]	Approved
21	21	1,582	2017-10-09	[ ]	Approved
22	22	595	2017-06-29	[v]	Approved
23	23	2,001	2017-04-08	[v]	Approved
24	24	515	2017-10-18	[ ]	Approved
25	25	2,822	2017-06-11	[ ]	Approved
26	26	2,596	2017-01-10	[ ]	Approved

Table product

	product_id	brand	product_line	product_class	product_size	list_price	standard_cost
1	14	Trek Bicycles	Standard	medium	small	1,386.84	1,234.29
2	28	Norco Bicycles	Standard	medium	small	1,216.14	1,082.36
3	0	Solex	Standard	medium	medium	71.49	53.62
4	5	Giant Bicycles	Standard	high	medium	1,129.13	677.48
5	22	WeareA2B	Standard	medium	medium	60.34	45.26
6	0	OHM Cycles	Standard	high	medium	227.88	136.73
7	12	WeareA2B	Standard	medium	medium	1,231.15	161.6
8	53	OHM Cycles	Standard	medium	medium	795.34	101.58
9	7	Giant Bicycles	Standard	medium	small	1,311.44	1,167.18
10	6	OHM Cycles	Standard	high	medium	227.88	136.73
11	0	Giant Bicycles	Standard	medium	large	569.56	528.43
12	18	Norco Bicycles	Standard	high	medium	1,148.64	689.18
13	87	OHM Cycles	Standard	medium	medium	1,636.9	44.71
14	6	Solex	Standard	high	medium	748.17	448.9
15	84	Trek Bicycles	Road	medium	medium	290.62	215.14
16	0	WeareA2B	Standard	medium	small	175.89	131.92
17	48	WeareA2B	Standard	medium	medium	1,762.96	950.52
18	91	WeareA2B	Standard	low	medium	642.31	513.85
19	97	OHM Cycles	Road	medium	medium	742.54	667.4
20	82	Norco Bicycles	Standard	high	medium	1,148.64	689.18
21	87	Giant Bicycles	Standard	high	medium	1,179	707.4
22	28	Solex	Road	medium	small	1,703.52	1,516.13
23	62	Solex	Standard	medium	medium	478.16	298.72
24	60	Giant Bicycles	Standard	high	small	1,977.36	1,759.85
25	72	Norco Bicycles	Standard	medium	medium	360.4	270.3

1. Вывести распределение (количество) клиентов по сферам деятельности, отсортировав результат по убыванию количества.

```sql
SELECT
    job_industry_category,
    COUNT(*) AS customer_count
FROM customer
GROUP BY job_industry_category
ORDER BY customer_count DESC;
```

	job_industry_category	customer_count
1	Manufacturing	799
2	Financial Services	774
3	n/a	656
4	Health	602
5	Retail	358
6	Property	267
7	IT	223
8	Entertainment	136
9	Argiculture	113
10	Telecommunications	72

2. Найти общую сумму дохода (list_price*quantity) по всем подтвержденным заказам за каждый месяц по сферам деятельности клиентов. Отсортировать результат по году, месяцу и сфере деятельности.

```sql
SELECT
    EXTRACT(YEAR FROM o.order_date) AS year,
    EXTRACT(MONTH FROM o.order_date) AS month,
    c.job_industry_category,
    SUM(oi.item_list_price_at_sale * oi.quantity) AS total_revenue
FROM orders o
JOIN order_items oi ON o.order_id = oi.order_id
JOIN customer c ON o.customer_id = c.customer_id
WHERE o.order_status = 'Approved'
GROUP BY
    EXTRACT(YEAR FROM o.order_date),
    EXTRACT(MONTH FROM o.order_date),
    c.job_industry_category
ORDER BY year, month, c.job_industry_category;
```

	year	month	job_industry_category	total_revenue
1	2 017	1	Argiculture	232 148,25
2	2 017	1	Entertainment	342 541,17
3	2 017	1	Financial Services	2 032 708,45
4	2 017	1	Health	1 570 012,48
5	2 017	1	IT	604 949,53
6	2 017	1	Manufacturing	1 931 238,45
7	2 017	1	n/a	1 788 848,1
8	2 017	1	Property	486 257,97
9	2 017	1	Retail	981 112,86
10	2 017	1	Telecommunications	164 558,49
11	2 017	2	Argiculture	328 571,75
12	2 017	2	Entertainment	336 017,65
13	2 017	2	Financial Services	2 081 547,57
14	2 017	2	Health	1 462 370,73
15	2 017	2	IT	543 267,18
16	2 017	2	Manufacturing	2 264 725,12
17	2 017	2	n/a	1 445 188,48

3. Вывести количество уникальных онлайн-заказов для всех брендов в рамках подтвержденных заказов клиентов из сферы IT. Включить бренды, у которых нет онлайн-заказов от IT-клиентов, — для них должно быть указано количество 0.

```sql
SELECT
    p.brand,
    COUNT(DISTINCT CASE WHEN o.online_order = true THEN o.order_id END) AS
unique_online_orders
FROM product p
LEFT JOIN order_items oi ON p.product_id = oi.product_id
LEFT JOIN orders o ON oi.order_id = o.order_id
    AND o.order_status = 'Approved'
LEFT JOIN customer c ON o.customer_id = c.customer_id
    AND c.job_industry_category = 'IT'
GROUP BY p.brand
ORDER BY unique_online_orders DESC;
```

	A-Z brand	123 unique_online_orders
1	Solex	3 881
2	Giant Bicycles	3 306
3	WeareA2B	3 098
4	OHM Cycles	2 991
5	Norco Bicycles	2 834
6	Trek Bicycles	2 775

4. Найти по всем клиентам: сумму всех заказов (общего дохода), максимум, минимум и количество заказов, а также среднюю сумму заказа по каждому клиенту. Отсортировать результат по убыванию суммы всех заказов и количества заказов. Выполнить двумя способами: используя только GROUP BY и используя только оконные функции. Сравнить результат.

```sql
-- Способ с GROUP BY
SELECT
    c.customer_id,
    c.first_name,
    c.last_name,
    SUM(oi.item_list_price_at_sale * oi.quantity) AS total_revenue,
    MAX(oi.item_list_price_at_sale * oi.quantity) AS max_order_amount,
    MIN(oi.item_list_price_at_sale * oi.quantity) AS min_order_amount,
    COUNT(o.order_id) AS order_count,
    AVG(oi.item_list_price_at_sale * oi.quantity) AS avg_order_amount
FROM customer c
LEFT JOIN orders o ON c.customer_id = o.customer_id
LEFT JOIN order_items oi ON o.order_id = oi.order_id
GROUP BY c.customer_id, c.first_name, c.last_name
ORDER BY total_revenue DESC NULLS LAST, order_count DESC NULLS LAST;
```

	123 customer_id	A-Z first_name	A-Z last_name	123 total_revenue	123 max_order_amount	123 min_order_amount	123 order_count	123 avg_order_amount
1	2 183	Jillie	Fyndon	136 632,46	20 056,6	1 073,07	14	9 759,46142857
2	1 597	Jeffry	Slowly	133 657,06	20 914,7	1 720,7	12	11 138,08833333
3	941	Tye	Doohan	129 789,94	20 914,7	2 115,02	10	12 978,9
4	1 129	Hercule		129 189,48	19 773,6	1 743,72	13	9 937,65230769
5	637	Mercy	Wilsone	109 334,74	17 796,24	360,4	13	8 410,36461538
6	2 309	Herc	McIlhone	107 476,68	16 353	991,44	12	8 956,3
7	3 015	Queenie	Flips	106 182,33	20 914,7	3 111,16	10	10 618,23
8	1 329	Wendy	Randlesome	101 439,07	17 934,3	543,39	11	9 221,73636363
9	2 046	Charis	Maas	100 891,35	18 823,23	2 667,55	9	11 210,1
10	2 615	Cordelia		99 880,69	19 773,6	1 149,28	9	11 097,85444444
11	2 914	Jessamine	Brazear	98 618,77	19 929,3	471,26	12	8 218,23083333
12	151	Donnie	Brimson	96 678,18	17 936,37	6 498,76	8	12 084,77
13	2 637	Marcile	Christley	94 577,19	20 914,7	500,43	11	8 597,92636363
14	590	Ddene	Burleton	94 465,02	18 755,46	357,45	12	7 872,08
15	3 240	Ryon	Elsay	94 428,21	18 050,94	351,78	10	9 442,8
16	1 517	Murdoch	Twort	92 630,56	16 586,28	1 172,78	11	8 420,9
17	213	Lockwood	Exroll	92 405,18	17 653	1 802	11	8 400,47090909

```sql
-- Способ с оконными функциями
SELECT DISTINCT
    c.customer_id,
    c.first_name,
    c.last_name,
    SUM(oi.item_list_price_at_sale * oi.quantity) OVER (PARTITION BY c.customer_id) AS
total_revenue,
    MAX(oi.item_list_price_at_sale * oi.quantity) OVER (PARTITION BY c.customer_id) AS
max_order_amount,
    MIN(oi.item_list_price_at_sale * oi.quantity) OVER (PARTITION BY c.customer_id) AS
min_order_amount,
    COUNT(o.order_id) OVER (PARTITION BY c.customer_id) AS order_count,
    AVG(oi.item_list_price_at_sale * oi.quantity) OVER (PARTITION BY c.customer_id) AS
avg_order_amount
FROM customer c
LEFT JOIN orders o ON c.customer_id = o.customer_id
LEFT JOIN order_items oi ON o.order_id = oi.order_id
ORDER BY total_revenue DESC NULLS LAST, order_count DESC NULLS LAST;
```

	customer_id	first_name	last_name	total_revenue	max_order_amount	min_order_amount	order_count	avg_order_amount
1	2 183	Jillie		136 632,46	20 056,6	1 073,07	14	9 759,4614285714
2	1 597	Jeffry	Slowly	133 657,06	20 914,7	1 720,7	12	11 138,0883333333
3	941	Tye	Doohan	129 789,94	20 914,7	2 115,02	10	12 978,994
4	1 129	Hercule		129 189,48	19 773,6	1 743,72	13	9 937,6523076923
5	637	Mercy	Wilsone	109 334,74	17 796,24	360,4	13	8 410,3646153846
6	2 309	Herc	McIlhone	107 476,68	16 353	991,44	12	8 956,39
7	3 015	Queenie	Flips	106 182,33	20 914,7	3 111,16	10	10 618,233
8	1 329	Wendy	Randlesome	101 439,07	17 934,3	543,39	11	9 221,7336363636
9	2 046	Charis	Maas	100 891,35	18 823,23	2 667,55	9	11 210,15
10	2 615	Cordelia		99 880,69	19 773,6	1 149,28	9	11 097,8544444444
11	2 914	Jessamine	Brazear	98 618,77	19 929,3	471,26	12	8 218,2308333333
12	151	Donnie	Brimson	96 678,18	17 936,37	6 498,76	8	12 084,7725
13	2 637	Marcile	Christley	94 577,19	20 914,7	500,43	11	8 597,9263636364
14	590	Ddene	Burleton	94 465,02	18 755,46	357,45	12	7 872,085
15	3 240	Ryon	Elsay	94 428,21	18 050,94	351,78	10	9 442,821
16	1 517	Murdoch	Twort	92 630,56	16 586,28	1 172,78	11	8 420,96
17	213	Lockwood	Exroll	92 405,18	17 653	1 802	11	8 400,4709090909

Column: first_name varchar(100) NOT NULL

GROUP BY возвращает по одной строке на каждого клиента
Оконные функции сохраняют все исходные функции
В нашем случае вывод данных будет одинаковым, тк в customer_id значения не повторяются

5. Найти имена и фамилии клиентов с топ-3 минимальной и топ-3 максимальной суммой транзакций за весь период (учесть клиентов, у которых нет заказов, приняв их сумму транзакций за 0).

```sql
WITH customer_totals AS (
    SELECT
        c.customer_id,
        c.first_name,
        c.last_name,
        COALESCE(SUM(oi.item_list_price_at_sale * oi.quantity), 0) AS total_amount
    FROM customer c
    LEFT JOIN orders o ON c.customer_id = o.customer_id
    LEFT JOIN order_items oi ON o.order_id = oi.order_id
    GROUP BY c.customer_id, c.first_name, c.last_name
),
ranked_customers AS (
    SELECT
        customer_id,
        first_name,
        last_name,
        total_amount,
        RANK() OVER (ORDER BY total_amount DESC) AS rank_max,
        RANK() OVER (ORDER BY total_amount ASC) AS rank_min
    FROM customer_totals
)
```

```sql
SELECT
    first_name,
    last_name,
    total_amount,
    'Max' AS rank_type
FROM ranked_customers
WHERE rank_max <= 3
UNION ALL
SELECT
    first_name,
    last_name,
    total_amount,
    'Min' AS rank_type
FROM ranked_customers
WHERE rank_min <= 3
ORDER BY rank_type, total_amount DESC;
```

	first_name	last_name	total_amount	rank_type
1	Jillie	Fyndon	136 632,46	Max
2	Jeffry	Slowly	133 657,06	Max
3	Tye	Doohan	129 789,94	Max
4	Elizabeth	Christy	0	Min
5	Tessy	Beefon	0	Min
6	Uriah	Chantree	0	Min
7	Garland	Wildsmith	0	Min
8	Constancia	Gebbe	0	Min
9	Lorain	Maliphant	0	Min
10	Randy	Duligall	0	Min
11	Sibley	Thirlwall	0	Min
12	Mordy	Hedin	0	Min
13	Rosalia	Skedge	0	Min
14	Fernande	Jahan	0	Min
15	Conny	Speechley	0	Min
16	Riki	Aimable	0	Min
17	Marlow	Balffye	0	Min

6. Вывести только вторые транзакции клиентов (если они есть) с помощью оконных функций. Если у клиента меньше двух транзакций, он не должен попасть в результат.

```sql
WITH ordered_orders AS (
    SELECT
        o.customer_id,
        o.order_id,
        o.order_date,
        ROW_NUMBER() OVER (PARTITION BY o.customer_id ORDER BY o.order_date, o.order_id) AS
order_sequence
    FROM orders o
),
customer_second_orders AS (
    SELECT
        oo.customer_id,
        oo.order_id,
        oo.order_date,
        c.first_name,
        c.last_name
    FROM ordered_orders oo
    JOIN customer c ON oo.customer_id = c.customer_id
    WHERE oo.order_sequence = 2
)
SELECT
    customer_id,
    first_name,
    last_name,
```

```
    order_id,
    order_date
FROM customer_second_orders
ORDER BY customer_id;
```

	customer_id	first_name	last_name	order_id	order_date
1	1	Laraine	Medendorp	13 424	2017-02-21
2	2	Eli	Bockman	6 743	2017-06-11
3	3	Arlin	Dearle	15 188	2017-03-24
4	4	Talbot		14 648	2017-06-18
5	5	Sheila-kathryn	Calton	19 993	2017-04-28
6	6	Curr	Duckhouse	8 204	2017-02-06
7	7	Fina	Merali	18 549	2017-02-24
8	8	Rod	Inder	19 844	2017-01-28
9	9	Mala	Lind	2 979	2017-03-06
10	10	Fiorenze	Birdall	10 250	2017-07-13
11	11	Uriah	Bisatt	16 846	2017-06-02
12	12	Sawyere	Flattman	12 242	2017-07-23
13	13	Gabriele	Norcross	8 905	2017-02-16
14	14	Rayshell	Kitteman	8 486	2017-08-16
15	15	Erroll	Radage	434	2017-03-10
16	16	Harlin	Parr	5 083	2017-05-10
17	17	Heath	Faraday	10 775	2017-05-01

7. Вывести имена, фамилии и профессии клиентов, а также длительность максимального интервала (в днях) между двумя последовательными заказами. Исключить клиентов, у которых только один или меньше заказов.

```
WITH ordered_orders AS (
    SELECT
        o.customer_id,
        c.first_name,
        c.last_name,
        c.job_title,
        o.order_date,
        LAG(o.order_date) OVER (PARTITION BY o.customer_id ORDER BY o.order_date) AS
prev_order_date,
        o.order_date - LAG(o.order_date) OVER (PARTITION BY o.customer_id ORDER BY
o.order_date) AS days_between
    FROM orders o
    JOIN customer c ON o.customer_id = c.customer_id
),
customer_stats AS (
    SELECT
        customer_id,
        first_name,
        last_name,
        job_title,
        MAX(days_between) AS max_days_between_orders,
        COUNT(*) AS total_orders,
        COUNT(days_between) AS calculated_intervals
    FROM ordered_orders
    GROUP BY customer_id, first_name, last_name, job_title
    HAVING COUNT(days_between) >= 1  -- Гарантирует минимум 2 заказа
)
SELECT
    customer_id,
```

```
    first_name,
    last_name,
    job_title,
    max_days_between_orders
FROM customer_stats
ORDER BY max_days_between_orders DESC;
```

	123 customer_id	A-Z first_name	A-Z last_name	A-Z job_title	123 max_days_between_orders
1	1 584	Susanetta		Legal Assistant	357
2	1 810	Royall	Terris	Geological Engineer	330
3	3 316	Stoddard	Giacomoni	Structural Analysis Engineer	330
4	2 128	Gregorius	Cockram	Data Coordiator	330
5	3 156	Bearnard	Letixier		329
6	3 222	Caralie	Sellors	Senior Editor	321
7	335	Debee	Martynov	Senior Editor	320
8	316	Genni	Larway	Environmental Specialist	314
9	2 146	Timmie	Lenden		310
10	2 085	Carolynn	Samsin	Pharmacist	310
11	3 024	Franz	Craddy		310
12	92	Jodee	Judkins	Recruiting Manager	306
13	1 633	Ashia	Muzzi	Mechanical Systems Engineer	306
14	2 586	Heywood	Sollett	Tax Accountant	305
15	2 541	Cleveland	Islep	Software Engineer II	299
16	510	Sheilah	Blackmore		297
17	520	Jazmin	Neumann	VP Quality Control	297

8. Найти топ-5 клиентов (по общему доходу) в каждом сегменте благосостояния (wealth_segment). Вывести имя, фамилию, сегмент и общий доход. Если в сегменте менее 5 клиентов, вывести всех.

```
WITH customer_wealth_revenue AS (
    SELECT
        c.customer_id,
        c.first_name,
        c.last_name,
        c.wealth_segment,
        COALESCE(SUM(oi.item_list_price_at_sale * oi.quantity), 0) AS total_revenue
    FROM customer c
    LEFT JOIN orders o ON c.customer_id = o.customer_id
    LEFT JOIN order_items oi ON o.order_id = oi.order_id
    GROUP BY c.customer_id, c.first_name, c.last_name, c.wealth_segment
),
ranked_customers AS (
    SELECT
        customer_id,
        first_name,
        last_name,
        wealth_segment,
        total_revenue,
        ROW_NUMBER() OVER (PARTITION BY wealth_segment ORDER BY total_revenue DESC) AS
rank_in_segment
    FROM customer_wealth_revenue
)
SELECT
    first_name,
    last_name,
    wealth_segment,
    total_revenue,
    rank_in_segment
FROM ranked_customers
WHERE rank_in_segment <= 5
ORDER BY wealth_segment, rank_in_segment;
```

	first_name	last_name	wealth_segment	total_revenue	rank_in_segment
1	Jeffry	Slowly	Affluent Customer	133 657,06	1
2	Tye	Doohan	Affluent Customer	129 789,94	2
3	Herc	McIlhone	Affluent Customer	107 476,68	3
4	Queenie	Flips	Affluent Customer	106 182,33	4
5	Jessamine	Brazear	Affluent Customer	98 618,77	5
6	Mercy	Wilsone	High Net Worth	109 334,74	1
7	Lockwood	Exroll	High Net Worth	92 405,18	2
8	Linell		High Net Worth	91 450,18	3
9	Gayelord	Lipman	High Net Worth	90 493,06	4
10	Jonell	Gon	High Net Worth	87 555,7	5
11	Jillie	Fyndon	Mass Customer	136 632,46	1
12	Hercule		Mass Customer	129 189,48	2
13	Wendy	Randlesome	Mass Customer	101 439,07	3
14	Charis	Maas	Mass Customer	100 891,35	4
15	Cordelia		Mass Customer	99 880,69	5