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-- Q1) ORDER TOTAL HESABI (order_id, user_id, order_date, order_total)

WITH order_totals AS (
    SELECT
        oi.order_id,
        SUM(oi.quantity * oi.unit_price) AS order_total
    FROM order_items oi
    GROUP BY oi.order_id
)

SELECT
    o.order_id,
    o.user_id,
    o.order_date,
    o.channel,
    ot.order_total
FROM orders o
JOIN order_totals ot ON ot.order_id = o.order_id
ORDER BY o.order_date, o.order_id;

-- Q2) Kampanya indirimi uygulanmış net_total (order_total + net_total)

WITH order_totals AS (
    SELECT
        oi.order_id,
        SUM(oi.quantity * oi.unit_price) AS order_total
    FROM order_items oi
    GROUP BY oi.order_id
)

SELECT
    o.order_id,
    o.user_id,
    o.order_date,
    o.channel,
    o.campaign_id,
    ot.order_total,
    ROUND (
        CASE
            WHEN o.campaign_id IS NULL THEN ot.order_total
            ELSE ot.order_total * (1 - c.discount_rate)
        END
        , 2 ) AS net_total

FROM orders o
JOIN order_totals ot ON ot.order_id = o.order_id
LEFT JOIN campaigns c ON c.campaign_id = o.campaign_id
ORDER BY o.order_date, o.order_id;

-- Q3) Kullanıcı bazlı total_orders, total_spend, AOV
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WITH order_totals AS (
    SELECT
        oi.order_id,
        SUM(oi.quantity * oi.unit_price) AS order_total
    FROM order_items oi
    GROUP BY oi.order_id
),
order_net AS (
    SELECT
        o.order_id,
        o.user_id,
        ROUND (
            CASE
                WHEN o.campaign_id IS NULL THEN ot.order_total
                ELSE ot.order_total * (1 - c.discount_rate)
            END
            ,2) AS net_total
    FROM orders o
    JOIN order_totals ot ON ot.order_id = o.order_id
    LEFT JOIN campaigns c ON c.campaign_id = o.campaign_id
)

SELECT
    u.user_id,
    u.full_name,
    COUNT(onet.order_id) AS total_orders,
    ROUND(COALESCE(SUM(onet.net_total), 0), 2) AS total_spend,
    ROUND(
        CASE WHEN COUNT (onet.order_id) = 0 THEN 0
            ELSE SUM (onet.net_total) / COUNT(onet.order_id)
        END
        , 2) AS avg_order_value
FROM users u
LEFT JOIN order_net onet ON onet.user_id = u.user_id
GROUP BY u.user_id, u.full_name
ORDER BY total_spend DESC, u.user_id;

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-- Q4) En çok harcayan top 3 kullanıcı (eşitlik varsa hepsi)

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WITH order_totals AS (
    SELECT
        oi.order_id,
        SUM(oi.quantity * oi.unit_price) AS order_total
    FROM order_items oi
    GROUP BY oi.order_id
),
order_net AS (
    SELECT
        o.user_id,
        ROUND(
            CASE
                WHEN o.campaign_id IS NULL THEN ot.order_total

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        ELSE ot.order_total * (1 - c.discount_rate)
      END
    , 2) AS net_total
FROM orders o
JOIN order_totals ot ON ot.order_id = o.order_id
LEFT JOIN campaigns c ON c.campaign_id = o.campaign_id
),

user_spend AS (
  SELECT
    u.user_id,
    u.full_name,
    ROUND(COALESCE(SUM(onet.net_total) , 0)
    , 2) AS total_spend
  FROM users u
  LEFT JOIN order_net onet ON onet.user_id = u.user_id
  GROUP BY u.user_id, u.full_name
),

ranked AS (
  SELECT
    *,
    DENSE_RANK() OVER(ORDER BY total_spend DESC) AS rnk
  FROM user_spend
)

SELECT
  user_id, full_name, total_spend
FROM ranked
WHERE rnk <= 3
ORDER BY total_spend DESC, user_id;

-- Q5) İlk sipariştten sonraki 14 günde 2.sipariş yapanlar first_order_date,
second_order_date

WITH users_order AS (
  SELECT
    o.user_id,
    o.order_id,
    o.order_date,
    ROW_NUMBER () OVER (PARTITION BY o.user_id ORDER BY o.order_date,
o.order_id) AS rn
  FROM orders o
),

first_second AS (
  SELECT
    u1.user_id,
    MIN(CASE WHEN u1.rn = 1 THEN u1.order_date END) AS first_order_date,
    MIN(CASE WHEN u1.rn = 2 THEN u1.order_date END) AS second_order_date
  FROM users_order u1
  GROUP BY u1.user_id
)

SELECT
  fs.user_id,

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        u.full_name,
        fs.first_order_date,
        fs.second_order_date
FROM first_second fs
JOIN users u ON u.user_id = fs.user_id
WHERE fs.second_order_date IS NOT NULL
      AND fs.second_order_date <= fs.first_order_date + INTERVAL '14 Days'
ORDER BY fs.user_id;

-- Q6) Siparişler arası gün farkı (prev_order_date, days_since_prev)

WITH x AS (
    SELECT
        o.user_id,
        u.full_name,
        o.order_id,
        o.order_date,
        LAG(o.order_date) OVER (PARTITION BY o.user_id ORDER BY o.order_date,
o.order_id) AS prev_order_date
    FROM orders o
    JOIN users u ON u.user_id = o.user_id
)

SELECT
    user_id,
    full_name,
    order_id,
    order_date,
    prev_order_date,
    (order_date - prev_order_date) AS days_since_prev
FROM x
WHERE prev_order_date IS NOT NULL
ORDER BY user_id, order_date, order_id;

-- Q7) Günlük net gelir + 3 günlük hareketli ortalama

WITH order_totals AS (
    SELECT
        oi.order_id,
        SUM(oi.quantity * oi.unit_price) AS order_total
    FROM order_items oi
    GROUP BY oi.order_id
),

order_net AS (
    SELECT
        o.order_date,
        ROUND(
            CASE
                WHEN o.campaign_id IS NULL THEN ot.order_total
                ELSE ot.order_total * (1-c.discount_rate)
            END
            , 2 ) AS net_total
    FROM orders o

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        JOIN order_totals ot ON ot.order_id = o.order_id
        LEFT JOIN campaigns c ON c.campaign_id = o.campaign_id
    ),

    daily AS (
        SELECT
            order_date,
            ROUND(SUM(net_total), 2) AS daily_net_revenue
        FROM order_net
        GROUP BY order_date
    )

    SELECT
        order_date,
        daily_net_revenue,
        ROUND(
            AVG(daily_net_revenue) OVER (ORDER BY order_date ROWS BETWEEN 2 PRECEDING
            AND CURRENT ROW)

            , 2) AS revenue_3d_ma
    FROM daily
    ORDER BY order_date;

-- Q8) Kanal bazlı gelir ve toplam içindeki payı (%)

WITH order_totals AS (
    SELECT
        oi.order_id,
        SUM (oi.quantity * oi.unit_price) AS order_total
    FROM order_items oi
    GROUP BY oi.order_id
),

order_net AS (
    SELECT
        o.channel,
        ROUND(
            CASE
                WHEN o.campaign_id IS NULL THEN ot.order_total
                ELSE ot.order_total * (1 - c.discount_rate)
            END
            , 2 ) AS net_total
    FROM orders o
    JOIN order_totals ot ON ot.order_id = o.order_id
    LEFT JOIN campaigns c ON c.campaign_id = o.campaign_id
),

channel_sum AS (
    SELECT
        channel,
        ROUND(SUM(net_total), 2) AS channel_net_revenue
    FROM order_net
    GROUP BY channel
)

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SELECT
    channel,
    channel_net_revenue,
    SUM(channel_net_revenue) OVER() AS total_net_revenue,
    ROUND(100.0 * channel_net_revenue) / NULLIF(SUM(channel_net_revenue) OVER (),
2) AS channel_share_pct

FROM channel_sum
ORDER BY channel_net_revenue DESC, channel;
```

-- Q9) Kategori bazlı en çok satan ürün

```
WITH product_qty AS (
    SELECT
        p.category,
        p.product_id,
        p.product_name,
        SUM(oi.quantity) AS total_qty
    FROM order_items oi
    JOIN products p ON p.product_id = oi.product_id
    GROUP BY p.category, p.product_id, p.product_name
),

ranked AS (
    SELECT
        *,
        ROW_NUMBER() OVER (PARTITION BY category ORDER BY total_qty DESC,
product_id) AS rn
    FROM product_qty
)

SELECT
    category,
    product_id,
    product_name,
    total_qty
FROM ranked
WHERE rn = 1
ORDER BY category;
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-- Q10) Churn Label (EN SON SİPARİŞ 21'DEN ESKİ)

```
WITH last_order AS (
    SELECT
        u.full_name,
        u.user_id,
        MAX(o.order_date) AS last_order_date
    FROM users u
    LEFT JOIN orders o ON o.user_id = u.user_id
    GROUP BY u.user_id, u.full_name
)
```

```
SELECT
    full_name,
    user_id,
    last_order_date,
    CASE
        WHEN last_order_date IS NULL THEN 1
        WHEN last_order_date < ('2026-01-16'::date - INTERVAL '21 Days') THEN 1
        ELSE 0
    END AS is_churned_21d
FROM last_order
ORDER BY user_id;
```