Query Sport

```
--- 1. Counting missing values
SELECT COUNT(*) AS total_rows,
    COUNT(description) AS count_description,
    COUNT(listing_price) AS count_listing_price,
    COUNT(last_visited) AS count_last_visited
FROM info AS i
LEFT JOIN finance AS f
ON i.product_id = f.product_id
LEFT JOIN traffic AS t
ON i.product_id = t.product_id
--- Return
total_rows|count_description|count_listing_price|count_last_visited|
----------+-----------------+-------------------+------------------+
     3179|             3179|               3120|              3179|

--- 2. Nike vs Adidas pricing
SELECT
    brand,
    CAST(listing_price AS integer) AS listing_price,
    COUNT(f)
FROM brands AS b
LEFT JOIN finance AS f
    ON b.product_id = f.product_id
LEFT JOIN traffic AS t
    ON b.product_id = t.product_id
WHERE listing_price > 0
GROUP BY
    brand,
    listing_price
ORDER BY listing_price DESC;
---Return
brand |listing_price|count|
------+-------------+-----+
Adidas|          300|    2|
Adidas|          280|    4|
Adidas|          240|    5|
Adidas|          230|    8|
Adidas|          220|   11|
Adidas|          200|    8|
Nike  |          200|    1|
Nike  |          190|    2|
Adidas|          190|    7|
Nike  |          180|    4|

--- 3. Labeling price ranges
SELECT
    b.brand,
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        COUNT(*),
        SUM(revenue) AS total_revenue,
        CASE
            WHEN f.listing_price < 42 THEN 'Budget'
            WHEN f.listing_price >= 42 AND f.listing_price < 74 THEN 'Average'
            WHEN f.listing_price >= 74 AND f.listing_price < 129 THEN 'Expensive'
            ELSE 'Elite' END AS price_category
FROM finance AS f
LEFT JOIN brands AS b
ON f.product_id = b.product_id
GROUP BY
        b.brand,
        price_category
HAVING b.brand IS NOT NULL
ORDER BY total_revenue DESC;
--- Return
brand |count|total_revenue|price_category|
------+-----+-------------+--------------+
      |   59|             |Elite         |
Adidas|  849|    4626979.5|Expensive     |
Adidas| 1060|    3233661.0|Average       |
Adidas|  307|    3014316.5|Elite         |
Adidas|  359|    651661.44|Budget        |
Nike  |  357|     595341.0|Budget        |
Nike  |   82|  128475.586|Elite         |
Nike  |   90|    71843.16|Expensive     |
Nike  |   16|      6623.5|Average       |


--- 4. Average discount by brand
SELECT
        brand,
        AVG(discount) * 100 AS average_discount
FROM brands AS b
LEFT JOIN finance AS f
ON b.product_id = f.product_id
WHERE brand IS NOT NULL
GROUP BY brand
HAVING AVG(discount) * 100 IS NOT NULL
--- Return
brand |average_discount |
------+-----------------+
Nike  |              0.0|
Adidas|33.45242746362408|


--- 5. Correlation between revenue and reviews
SELECT
        CORR(reviews, revenue) AS review_revenue_corr
FROM reviews AS r
LEFT JOIN finance AS f
ON r.product_id = f.product_id
--- Return
review_revenue_corr|
-------------------+
 0.6518512280081782|
```

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--- 6. Ratings and reviews by product description length
SELECT
    TRUNC(LENGTH(description), -2) as description_length,
    ROUND(AVG(rating::numeric), 2) as average_rating
FROM info AS i
LEFT JOIN reviews AS r
ON i.product_id = r.product_id
WHERE i.description IS NOT NULL
GROUP BY description_length
ORDER BY description_length;
--- Return
description_length|average_rating|
------------------+--------------+
                0|          2.56|
              100|          3.21|
              200|          3.27|
              300|          3.29|
              400|          3.32|
              500|          3.12|
              600|          3.65|


--- 7. Reviews by month and brand
SELECT
    brand,
    DATE_PART('month', last_visited) AS month,
    COUNT(reviews) AS num_reviews
FROM traffic AS t
LEFT JOIN brands AS b
    ON t.product_id = b.product_id
LEFT JOIN reviews AS r
    ON t.product_id = r.product_id
GROUP BY
    brand,
    month
HAVING
    brand IS NOT NULL AND
    DATE_PART('month', t.last_visited) IS NOT NULL
ORDER BY
    brand,
    month;
--- Return
brand month num_reviews
Adidas  1.0 253
Adidas  2.0 272
Adidas  3.0 269
Adidas  4.0 180
Adidas  5.0 172
Adidas  6.0 159
Adidas  7.0 170
Adidas  8.0 189
Adidas  9.0 181
Adidas  10.0  192
Adidas  11.0  150
```

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Adidas  12.0  190
Nike   1.0 52
Nike   2.0 52
Nike   3.0 55
Nike   4.0 42
Nike   5.0 41
Nike   6.0 43
Nike   7.0 37
Nike   8.0 29
Nike   9.0 28
Nike   10.0  47
Nike   11.0  38
Nike   12.0  35


--- 8. Footwear product performance

WITH footwear AS (
    SELECT
        description,
        revenue
    FROM info AS i
    LEFT JOIN finance AS f
    ON i.product_id = f.product_id
    WHERE
        description ILIKE '%shoe%' OR
        description ILIKE '%trainer%' OR
        description ILIKE '%foot%' AND
        description IS NOT NULL
)

SELECT COUNT(*) AS num_footwear_products,
    percentile_disc(0.5) WITHIN GROUP (ORDER BY revenue) AS median_footwear_revenue
FROM footwear;
num_footwear_products|median_footwear_revenue|
---------------------+-----------------------+
                 2700|                3118.36|

--- 9. Clothing product performance
WITH footwear AS (
    SELECT
        description,
        revenue
    FROM info AS i
    LEFT JOIN finance AS f
    ON i.product_id = f.product_id
    WHERE
        i.description ILIKE '%shoe%' OR
        i.description ILIKE '%trainer%' OR
        i.description ILIKE '%foot%' AND
        i.description IS NOT NULL
)
SELECT COUNT(product_name) AS num_clothing_products,
     percentile_disc(0.5) WITHIN GROUP (ORDER BY revenue) AS median_clothing_revenue
FROM info
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```
JOIN finance ON info.product_id = finance.product_id
WHERE description NOT IN(SELECT description FROM footwear);
--- Return
num_clothing_products|median_clothing_revenue|
---------------------+----------------------+
                  479|                503.82|
```