Querying – Sorting, Filtering & Grouping Assignment Questions

1. **Top 3 highest revenue-generating brands**
   Write a query to calculate total revenue (`price * sales_volume`) per brand and return the top 3.
2. **Monthly scraping trend**
   Group the data by month and year from `scraped_at`, and count how many products were scraped in each period.
3. **Top 2 categories with the highest average price**
   Find the top 2 product categories with the highest average product price.
4. **Find brand diversity by section**
   For each `section`, count how many unique brands are present.
5. **Most frequent price ending digit**
   Analyze the price values and identify the most frequent last digit after the decimal point (e.g., 0.00, 0.99, etc.).
6. **Detect price anomalies**
   Find products whose prices are greater than **twice the average price** of their category.
7. **Brand promotion ratio**
   For each brand, calculate the ratio of promoted (`promotion = 'Yes'`) to non-promoted products.
8. **Popular non-seasonal items**
   Identify the top 5 non-seasonal products (`seasonal = 'No'`) with the highest sales volume.
9. **Longest product names by category**
   Find the product with the longest name (`LENGTH(name)`) in each product category.
10. **Find average sales per price tier**
    Use a CASE statement to classify price into tiers (e.g., Low, Medium, High) and then compute average `sales_volume` per tier.
11. **Sales contribution by section**
    Show the percentage contribution of each `section` to the total sales volume.
12. **Brand-section combinations with fewer than 2 products**
    Find all brand + section combinations that appear less than twice in the dataset.
13. **Duplicate SKU check with different names**
    Detect if any SKUs are reused with different product names.
14. **URL classification by domain**
    Extract domain names from `url` and count how many products are from each domain.
15. **Compare aisle vs end-cap sales**
    Compare total and average `sales_volume` between products located in 'Aisle' and 'End-cap'.
16. **Most descriptive product per brand**
    For each brand, find the product with the longest description (by character count).
17. **Find inactive categories**
    Return categories where no product is currently marked under promotion (`promotion = 'No'` for all).

18. **Dynamic pricing check**
    Find if any products with the same name have more than one price (implying dynamic pricing).
19. **Find highest revenue section**
    Aggregate revenue (`price * sales_volume`) per section and return the top 1.
20. **Build a mini product catalog JSON**
    Generate a JSON-like string output for each section showing product name, price, and brand.