SQL Queries

Close-ended Questions.

1. **What are the top 5 brands by receipts scanned among users 21 and over?**

   ```
   SELECT P.BRAND, COUNT(T.RECEIPT_ID) AS RECEIPT_COUNT
   FROM Transactions T
   JOIN Users U ON T.USER_ID = U.ID
   JOIN Products P ON T.BARCODE = P.BARCODE
   WHERE DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) >= 21
   GROUP BY P.BRAND
   ORDER BY RECEIPT_COUNT DESC
   OFFSET 0 ROWS FETCH NEXT 5 ROWS ONLY;
   ```

2. **What are the top 5 brands by sales among users that have had their account for at least six months?**

   ```
   SELECT TOP 5
      P.BRAND,
      SUM(T.FINAL_SALE) AS total_sales
   FROM
      Users U
   JOIN
      Transactions T ON U.ID = T.USER_ID
   JOIN
      Products P ON T.BARCODE = P.BARCODE
   WHERE
      U.CREATED_DATE <= DATEADD(MONTH, -6, GETDATE())
      AND T.FINAL_SALE IS NOT NULL
   GROUP BY
      P.BRAND
   ORDER BY
      total_sales DESC;
   ```

3. What is the percentage of sales in the Health & Wellness category by generation?

```sql
SELECT
  CASE
    WHEN DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) BETWEEN 18 AND 25 THEN 'Gen Z'
    WHEN DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) BETWEEN 26 AND 41 THEN 'Millennials'
    WHEN DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) BETWEEN 42 AND 57 THEN 'Gen X'
    ELSE 'Boomers'
  END AS Generation,
  SUM(T.FINAL_SALE) / (SELECT SUM(T1.FINAL_SALE)
            FROM Transactions T1
            JOIN Products P1 ON T1.BARCODE = P1.BARCODE
            WHERE P1.CATEGORY_1 = 'Health & Wellness') * 100 AS
Percentage_Of_Sales
FROM Transactions T
JOIN Users U ON T.USER_ID = U.ID
JOIN Products P ON T.BARCODE = P.BARCODE
WHERE P.CATEGORY_1 = 'Health & Wellness'
GROUP BY
  CASE
    WHEN DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) BETWEEN 18 AND 25 THEN 'Gen Z'
    WHEN DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) BETWEEN 26 AND 41 THEN 'Millennials'
    WHEN DATEDIFF(YEAR, U.BIRTH_DATE, GETDATE()) BETWEEN 42 AND 57 THEN 'Gen X'
    ELSE 'Boomers'
  END;
```

Open-ended Questions

1. **Who are Fetch's power users?**

   SELECT TOP 5
       U.ID,
       COUNT(T.RECEIPT_ID) AS total_transactions,
   FROM
       Users U
   JOIN
       Transactions T ON U.ID = T.USER_ID
   GROUP BY
       U.ID
   ORDER BY
       total_transactions DESC;

   Assumption - The users who regularly shop and upload receipts from a wide variety of stores and take advantage of frequent purchases to earn points on every receipt could be considered as Fetch's power users.

2. **Which is the leading brand in the Dips & Salsa category?**

   SELECT TOP 1
       P.BRAND,
       SUM(T.FINAL_SALE) AS total_sales
   FROM
       Products P
   JOIN
       Transactions T ON P.BARCODE = T.BARCODE
   WHERE
       P.CATEGORY_3 = 'Dips & Salsa'
   GROUP BY
       P.BRAND
   ORDER BY
       total_sales DESC;

   Assumption - The leading brand is defined by the total sales of products within the "Dips & Salsa" subcategory, assuming that FINAL SALE correctly represents the sales data for transactions.