**SQL Queries**

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

SELECT brand,

COUNT(receipt\_id) AS receipt\_count

FROM

fetchrewards.transactions

JOIN

fetchrewards.products

ON products.barcode = transactions.barcode -- Matching records based on barcode

JOIN

fetchrewards.users

ON users.ID = transactions.USER\_ID -- Matching records based on userID

WHERE

EXTRACT(YEAR FROM AGE(BIRTH\_DATE)) >= 21 -- Filters users with age 21 or more

AND brand IS NOT NULL -- Ensures brand is not null

GROUP BY

brand -- Groups the results by brand

ORDER BY

receipt\_count DESC -- Sorts the result in descending order

LIMIT 5;

**Output :**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | **BRAND** | **RECEIPT\_COUNT** | | --- | --- | | DOVE | 21 | | TRESEMMÉ | 19 | | CHEX MIX | 19 | | SUAVE | 19 | | ST. IVES | 18 | |

1. **Top 5 brands by sales among users that have had their account for at least six months**

SELECT

brand,

SUM(final\_sale) AS total\_sales

FROM

transactions

JOIN

products ON products.barcode = transactions.barcode

JOIN

users ON users.ID = transactions.user\_id

WHERE

users.created\_date <= CURRENT\_DATE - INTERVAL '6 months'

AND final\_sale IS NOT NULL

AND brand IS NOT NULL

GROUP BY

brand

ORDER BY

total\_sales DESC

LIMIT 5;

**OutPut :**

|  |  |  |
| --- | --- | --- |
| | **BRAND** | **TOTAL\_SALES** | | --- | --- | |
| |  |  | | --- | --- | | EQUATE | 6429.88 | |
| |  |  | | --- | --- | | CVS | 6107.09 | |
| |  |  | | --- | --- | | DOVE | 3772.68 | |
| |  |  | | --- | --- | | PEPSI | 3745.84 | |
| |  |  | | --- | --- | | NATURE VALLEY | 3324.12 | |

3 .**Percentage of sales in the Health & Wellness category by generation**

WITH generation\_sales AS (

SELECT

CASE

WHEN EXTRACT(YEAR FROM AGE(users.birth\_date)) BETWEEN 18 AND 24 THEN 'Gen Z'

WHEN EXTRACT(YEAR FROM AGE(users.birth\_date)) BETWEEN 25 AND 40 THEN 'Millennials'

WHEN EXTRACT(YEAR FROM AGE(users.birth\_date)) BETWEEN 41 AND 56 THEN 'Gen X'

WHEN EXTRACT(YEAR FROM AGE(users.birth\_date)) >= 57 THEN 'Baby Boomers'

ELSE 'Unknown'

END AS generation,

SUM(final\_sale) AS total\_sales

FROM

transactions

JOIN

products ON products.barcode = transactions.barcode

JOIN

users ON users.ID = transactions.user\_id

WHERE

products.category = 'Health & Wellness'

AND final\_sale IS NOT NULL

GROUP BY

generation

),

total\_sales AS (

SELECT

SUM(final\_sale) AS grand\_total

FROM

transactions

JOIN

products ON products.barcode = transactions.barcode

WHERE

products.category = 'Health & Wellness'

)

SELECT

generation,

total\_sales,

ROUND((total\_sales / (SELECT grand\_total FROM total\_sales)) \* 100, 2) AS percentage

FROM

generation\_sales;

**OutPut :**

| GENERATION | CATEGORY\_SALES | PERCENTAGE |
| --- | --- | --- |
| Baby Boomers | 0.0 | 0.0% |
| Gen X | 0.0 | 0.0% |
| Millennials | 0.0 | 0.0% |

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

Assumption: **Power users are defined as users who have scanned the highest number of receipts.**

SELECT

USER\_ID,

COUNT(RECEIPT\_ID) AS RECEIPT\_COUNT

FROM

TRANSACTION\_TAKEHOME

GROUP BY

USER\_ID

ORDER BY

RECEIPT\_COUNT DESC

LIMIT 10;  
**Output:**

|  |  |  |  |
| --- | --- | --- | --- |
| | **USER\_ID** | **RECEIPT\_COUNT** | **TOTAL\_SPENDING** | | --- | --- | --- | |
| |  |  |  | | --- | --- | --- | | 643059f0838dd2651fb27f50 | 4 | 75.99 | |
| |  |  |  | | --- | --- | --- | | 62ffec490d9dbaff18c0a999 | 6 | 52.28 | |
| |  |  |  | | --- | --- | --- | | 5f4c9055e81e6f162e3f6fa8 | 2 | 37.96 | |
| |  |  |  | | --- | --- | --- | | 5d191765c8b1ba28e74e8463 | 2 | 34.96 | |
| |  |  |  | | --- | --- | --- | | 6351760a3a4a3534d9393ecd | 4 | 27.74 | |
| |  |  |  | | --- | --- | --- | | 64dd9170516348066e7c4006 | 4 | 26.52 | |
| |  |  |  | | --- | --- | --- | | 62c09104baa38d1a1f6c260e | 6 | 20.28 | |
| |  |  |  | | --- | --- | --- | | 61a58ac49c135b462ccddd1c | 6 | 19.92 | |
| |  |  |  | | --- | --- | --- | | 6661ed1e7c0469953bfc76c4 | 4 | 18.60 | |
| |  |  |  | | --- | --- | --- | | 5b441360be53340f289b0795 | 4 | 18.32 | |

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

**Assumption:** The leading brand is the one with the highest total sales in the "Dips & Salsa" category.

SELECT

P. BRAND,

SUM (T. FINAL\_SALE) AS TOTAL\_SALES

FROM

TRANSACTION\_TAKEHOME T

JOIN

PRODUCTS\_TAKEHOME P

ON

T. BARCODE = P. BARCODE

WERE

P. CATEGORY\_2 = 'Dips & Salsa'

GROUP BY

P. BRAND

ORDER BY

TOTAL\_SALES DESC

LIMIT 1.

**OutPut :**

| **BRAND** | **TOTAL\_SALES** |
| --- | --- |
| MARKETSIDE | 165,280.06 |

**3. At what percent has Fetch grown year over year?**

Assumption: **Growth is based on the count of new users created year over year.**

WITH UserCounts AS (

SELECT

YEAR(CREATED\_DATE) AS Year,

COUNT(ID) AS UserCount

FROM

USER\_TAKEHOME

GROUP BY

YEAR(CREATED\_DATE)

),

Growth AS (

SELECT

Year,

UserCount,

LAG(UserCount) OVER (ORDER BY Year) AS PreviousYearCount,

((UserCount - LAG(UserCount) OVER (ORDER BY Year)) / LAG(UserCount) OVER (ORDER BY Year)) \* 100 AS GrowthRate

FROM

UserCounts

)

SELECT

Year,

UserCount,

PreviousYearCount,

GrowthRate

FROM

Growth

ORDER BY

Year.

**Output:**

Calculate Fetch’s year-over-year (YoY) growth rate based on the total number of transactions each year.

* 1. Extracted the year from the PURCHASE\_DATE field in the transactions table and count the total number of transactions (TOTAL\_TRANSACTIONS) for each year.
  2. Perform a self-join on the yearly transactions table to compare each year's transactions with the previous year (TRANSACTION\_YEAR = PREVIOUS\_YEAR + 1).
  3. Calculate the YoY growth percentage using the formula: YoY Growth=Current Year Transactions - Previous Year TransactionsPrevious Year Transactions×100\text{YoY Growth} = \frac{\text{Current Year Transactions - Previous Year Transactions}}{\text{Previous Year Transactions}} \times 100YoY Growth=Previous Year TransactionsCurrent Year Transactions - Previous Year Transactions​×100
  4. Filter out years without data for the previous year (yt2.TOTAL\_TRANSACTIONS IS NOT NULL).

Note:

The query returned no results because there were no yearly transaction records with sufficient data to calculate year-over-year growth. This is due to missing or incomplete transaction dates in the dataset.