SQL Challenge 6

Marketing Analysis

Intro

You are a Marketing Analyst. The 'Sustainable Clothing Co.' have been running several marketing campaigns and have asked you to provide your insight into whether they have been successful or not. Analyse the following data and answer the questions to form your answer.

Tables

Here are the tables you will be using

sustainable_clothing

Product ID	Product Name	Category	Size	Price
1	Organic Cotton T-Shirt	Tops	S	$29.99
2	Recycled Denim Jeans	Bottoms	M	$79.99
3	Hemp Crop Top	Tops	L	$24.99
4	Bamboo Lounge Pants	Bottoms	XS	$49.99
5	Eco-Friendly Hoodie	Outerwear	XL	$59.99
6	Linen Button-Down Shirt	Tops	M	$39.99
7	Organic Cotton Dress	Dresses	S	$69.99
8	Sustainable Swim Shorts	Swimwear	L	$34.99
9	Recycled Polyester Jacket	Outerwear	XL	$89.99
10	Bamboo Yoga Leggings	Activewear	XS	$54.99
11	Hemp Overalls	Bottoms	M	$74.99
12	Organic Cotton Sweater	Tops	L	$49.99
13	Cork Sandals	Footwear	S	$39.99
14	Recycled Nylon Backpack	Accessories	One Size	$59.99
15	Organic Cotton Skirt	Bottoms	XS	$34.99
16	Hemp Baseball Cap	Accessories	One Size	$24.99
17	Upcycled Denim Jacket	Outerwear	M	$79.99
18	Linen Jumpsuit	Dresses	L	$69.99
19	Organic Cotton Socks	Accessories	M	$9.99
20	Bamboo Bathrobe	Loungewear	XL	$69.99

transactions (first 10 shown)

transaction_id	product_id	quantity	purcahse_date
1	2	2	2023-06-02
1	14	1	2023-06-02
2	5	2	2023-06-05
3	2	1	2023-06-07
4	19	2	2023-06-10
5	2	1	2023-06-13
5	16	1	2023-06-13
6	10	2	2023-06-15
7	2	1	2023-06-18
8	4	1	2023-06-22
9	18	2	2023-06-26
10	2	1	2023-06-30
10	13	1	2023-06-30

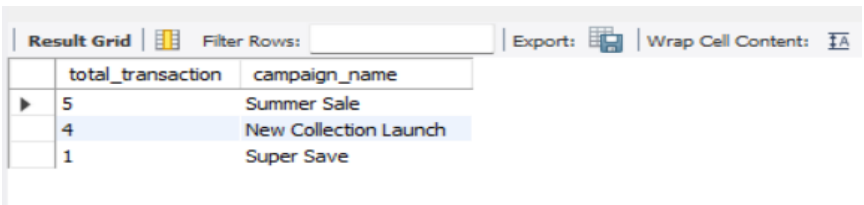
marketing_campaigns

campaign_id	campaign_name	product_id	start_date	end_date
1	Summer Sale	2	2023-06-01	2023-06-30
2	New Collection Launch	10	2023-07-15	2023-08-15
3	Super Save	7	2023-08-20	2023-09-15

Questions

1. How many transactions were completed during each marketing campaign?

```
WITH  t AS(
SELECT transaction_id,m.product_id,m.campaign_name,start_date,end_DATE,PURCHASE_DATE
FROM Transactions t JOIN marketing_campaigns m
ON t.product_id=m.product_id
WHERE purchase_date BETWEEN start_date AND end_date)
SELECT count(transaction_id) AS total_transaction,campaign_name
FROM t GROUP BY  campaign_name
ORDER BY total_transaction DESC ;
```



total_transaction	campaign_name
5	Summer Sale
4	New Collection Launch
1	Super Save

2. Which product had the highest sales quantity?

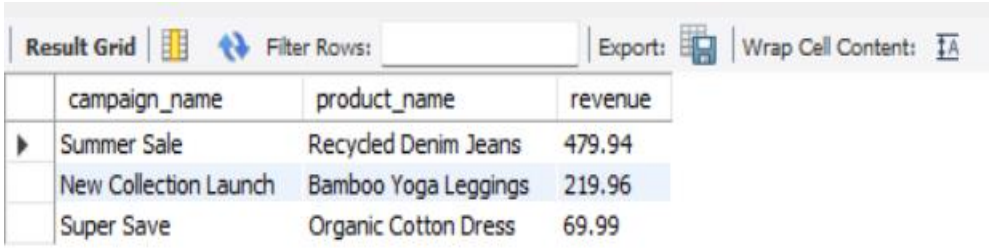
```
SELECT t.product_id,product_name,sum(quantity) AS total_sales_quantity
FROM Transactions t
JOIN sustainable_clothing s
ON t.product_id=s.product_id
GROUP BY  t.product_id,product_name
ORDER BY  total_sales_quantity DESC LIMIT  1 ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_id	product_name	total_sales_quantity
12	Organic Cotton Sweater	9

3. What is the total revenue generated from each marketing campaign?

```
SELECT m.campaign_name,s.product_name,round(sum(t.quantity*s.price),2) AS revenue
FROM transactions t
JOIN marketing_campaigns m
ON m.product_id=t.product_id JOIN sustainable_clothing s
ON s.product_id=t.product_id
WHERE t.purchase_date
BETWEEN m.start_date AND m.end_date
GROUP BY  s.product_name,campaign_name
ORDER BY  revenue DESC;
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

campaign_name	product_name	revenue
Summer Sale	Recycled Denim Jeans	479.94
New Collection Launch	Bamboo Yoga Leggings	219.96
Super Save	Organic Cotton Dress	69.99

4. What is the top-selling product category based on the total revenue generated?

```
WITH t1 AS (
SELECT category, round(sum(quantity * price),4) AS total_revenue,
DENSE_RANK() OVER(ORDER BY  sum(quantity * price) DESC) AS ranking
FROM transactions t JOIN sustainable_clothing sc ON t.product_id = sc.product_id
GROUP BY category)
SELECT category, total_revenue FROM t1 WHERE ranking = 1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

category	total_revenue
Bottoms	1289.79

5. Which products had a higher quantity sold compared to the average quantity sold?

```
SELECT  t.product_id,product_name,sum(quantity) AS tot_sum
FROM  transactions t
JOIN sustainable_clothing s ON t.product_id = s.product_id
GROUP BY  t.product_id,product_name
having tot_sum > avg(t.quantity)
order by tot_sum desc limit 1 ;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_id	product_name	tot_sum
12	Organic Cotton Sweater	9

6. What is the average revenue generated per day during the marketing campaigns?

```
with table1 as(
select campaign_name , product_name ,quantity , price ,purchase_date , round((quantity * price),2) as amount
from transactions as t join marketing_campaigns as mc
on t.purchase_date between mc.start_date and mc.end_date
join sustainable_clothing as sc
on mc.product_id = sc.product_id)
select distinct purchase_date , round(avg(amount) over(partition by purchase_date),2) as per_day_sales
from table1
order by purchase_date asc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

purchase_date	per_day_sales
2023-06-02	119.98
2023-06-05	159.98
2023-06-07	79.99
2023-06-10	159.98
2023-06-13	79.99
2023-06-15	159.98
2023-06-18	79.99
2023-06-22	79.99
2023-06-26	159.98
2023-06-30	79.99
2023-07-16	54.99
2023-07-20	54.99
2023-07-24	109.98
2023-07-29	54.99
2023-08-03	54.99
2023-08-08	109.98
2023-08-14	54.99
2023-08-20	139.98
2023-08-27	69.99
2023-09-01	139.98
2023-09-05	69.99
2023-09-10	69.99
2023-09-14	104.98

7. What is the percentage contribution of each product to the total revenue?

```
72 • with table2 as(
73   with table1 as(
74   select product_name , price , quantity , round((price * quantity),2) as amount
75   from sustainable_clothing as sc join transactions as t
76   on t.product_id = sc.product_id)
77   select *, round(sum(amount) over(),2) as total_revenue
78   from table1)
79   select product_name , round(sum(round(((amount / total_revenue) * 100),2)),2) as percentage_contribution
80   from table2
81   group by product_name
82   order by percentage_contribution desc;
83
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_name	percentage_contribution
Recycled Denim Jeans	13.69
Linen Jumpsuit	10.5
Organic Cotton Sweater	9.63
Bamboo Yoga Leggings	9.44
Recycled Polyester Jacket	7.71
Eco-Friendly Hoodie	6.42
Bamboo Lounge Pants	5.35
Upcycled Denim Jacket	5.14
Hemp Overalls	4.82
Organic Cotton Dress	4.5
Organic Cotton Skirt	3.75
Cork Sandals	3.44
Bamboo Bathrobe	3
Hemp Baseball Cap	2.69
Linen Button-Down Shirt	2.57
Recycled Nylon Backpack	2.56
Sustainable Swim Shorts	1.5
Organic Cotton Socks	1.5
Organic Cotton T-Shirt	1.28
Hemp Crop Top	0.54

8. Compare the average quantity sold during marketing campaigns to outside the marketing campaigns

```
86 • with table1 as(
87   select avg(quantity) as total_quantity_sold
88   from transactions as t),
89
90   table2 as(
91   select avg(quantity) as avg_quantity_inside_campaign
92   from transactions as t join marketing_campaigns as mc
93   on t.purchase_date between mc.start_date and mc.end_date)
94
95   select total_quantity_sold , avg_quantity_inside_campaign , (total_quantity_sold - avg_quantity_inside_campaign) as avg_quantity_outside_campaign
96   from table1 , table2;
97
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_quantity_sold	avg_quantity_inside_campaign	avg_quantity_outside_campaign
1.3750	1.3333	0.0417

9. Compare the revenue generated by products inside the marketing campaigns to outside the campaigns

```sql
with table1 as(
select round(sum(round((price * quantity),2)),2) as total_revenue
from transactions as t join sustainable_clothing as sc
on t.product_id = sc.product_id),

table2 as(
select round(sum(round((price * quantity),2)),2) as revenue_inside_campaign
from transactions as t join sustainable_clothing as sc
on t.product_id = sc.product_id
join marketing_campaigns as mc
on t.purchase_date between mc.start_date and mc.end_date)

select total_revenue ,revenue_inside_campaign , (total_revenue - revenue_inside_campaign) as revenue_outside_campaign
from table1 , table2;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_revenue	revenue_inside_campaign	revenue_outside_campaign
4669.12	2074.6	2594.52

10. Rank the products by their average daily quantity sold

```sql
with table2 as(
with table1 as(
select product_name , quantity , purchase_date , sum(quantity) over(partition by purchase_date) as pd_qty
from transactions as t join sustainable_clothing as sc
on t.product_id = sc.product_id)
select distinct product_name , round(avg(pd_qty) over(partition by product_name)) as average_daily_quantity
from table1)
select * , dense_rank() over(order by average_Daily_quantity desc) as ranking
from table2;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

product_name	average_daily_quantity	ranking
Recycled Polyester Jacket	5	1
Upcycled Denim Jacket	5	1
Organic Cotton Socks	4	2
Organic Cotton T-Shirt	4	2
Sustainable Swim Shorts	4	2
Bamboo Yoga Leggings	3	3
Cork Sandals	3	3
Hemp Baseball Cap	3	3
Linen Jumpsuit	3	3
Organic Cotton Skirt	3	3
Organic Cotton Sweater	3	3
Recycled Nylon Backpack	3	3
Bamboo Bathrobe	2	4
Bamboo Lounge Pants	2	4
Eco-Friendly Hoodie	2	4
Hemp Crop Top	2	4
Hemp Overalls	2	4
Linen Button-Down Shirt	2	4
Recycled Denim Jeans	2	4
Organic Cotton Dress	1	5