E- Commerce | Internship

a. Customer Demographics:

i.What is the average age of customer in the dataset?

```
1  SELECT * FROM ecom.customer_data;
2
3
4  /*
5  a. Customer Demographics
6    i.What is the average age of customer in the dataset?
7    */
8
9    SELECT
10       AVG(YEAR(NOW()) - Year_Birth) AS Average_Age
11   FROM
12      ecom.customer_data;
13
14      /*
15     ii.How many customers fall into each education level category?
```

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

Average_Age
55.1796

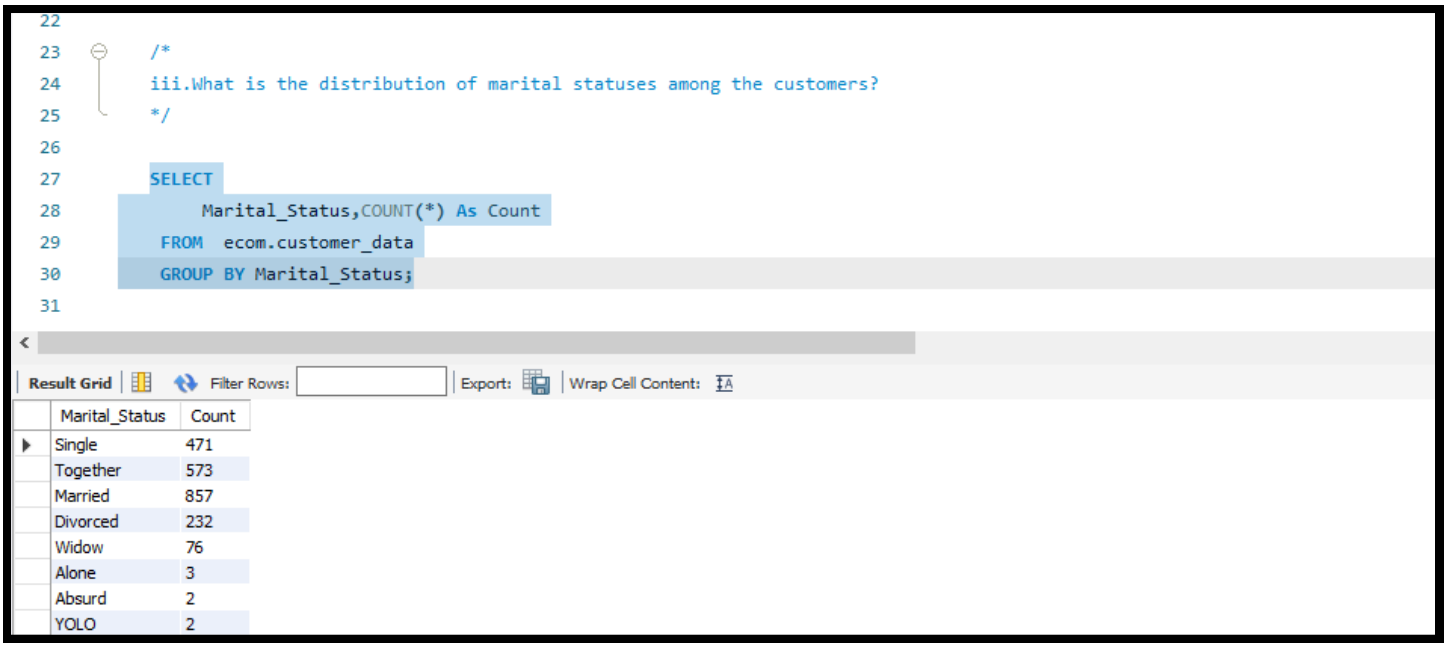
ii.How many customers fall into each education level category?

```
13
14      /*
15     ii.How many customers fall into each education level category?
16     */
17
18    SELECT
19       Education,COUNT(*) As Count
20    FROM ecom.customer_data
21    GROUP BY Education;
```

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

Education	Count
Graduation	1116
PhD	481
Master	365
Basic	54
2n Cycle	200

iii.What is the distribution of marital statuses among the customers?



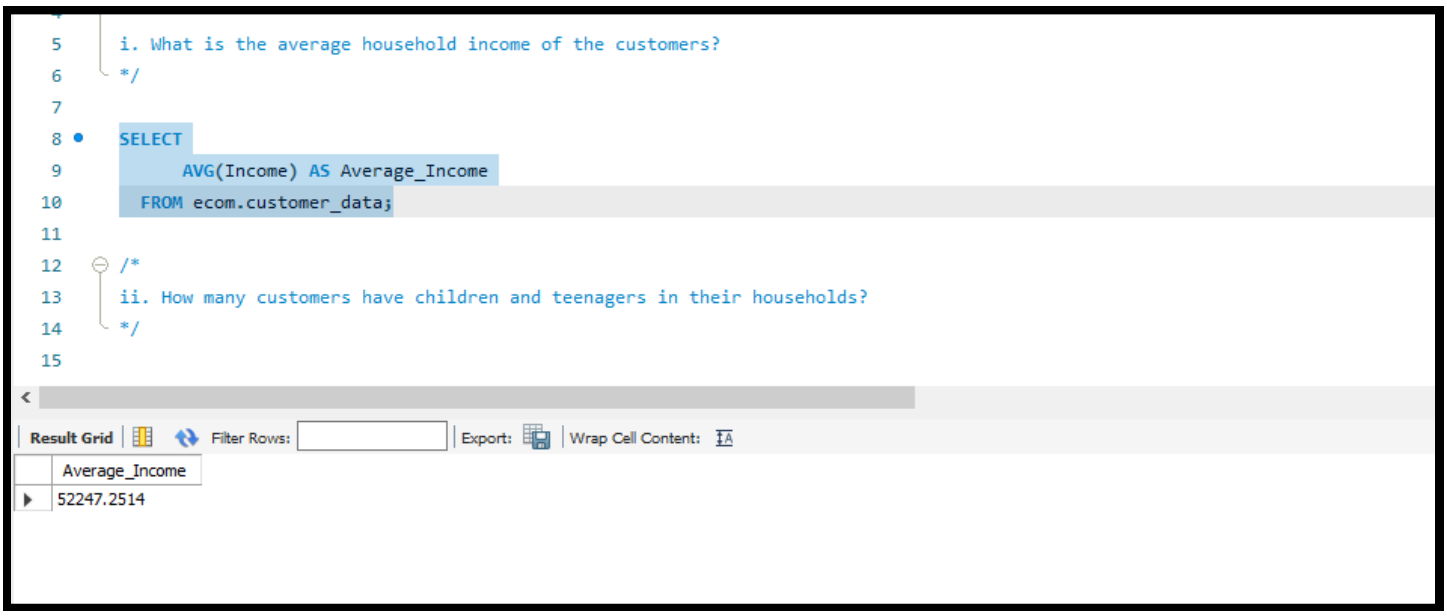
```
/*
iii.What is the distribution of marital statuses among the customers?
*/

SELECT
      Marital_Status,COUNT(*) As Count
 FROM  ecom.customer_data
 GROUP BY Marital_Status;
```

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

Marital_Status	Count
Single	471
Together	573
Married	857
Divorced	232
Widow	76
Alone	3
Absurd	2
YOLO	2

b. Income and Household Information:

i. What is the average household income of the customers?



```
i. What is the average household income of the customers?
*/

SELECT
      AVG(Income) AS Average_Income
 FROM ecom.customer_data;

/*
ii. How many customers have children and teenagers in their households?
*/
```

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

Average_Income
52247.2514

ii. How many customers have children and teenagers in their households?

```sql
/*
ii. How many customers have children and teenagers in their households?
*/

SELECT
   Kidhome,Teenhome, COUNT(*) AS COUNT
FROM ecom.customer_data
GROUP BY Kidhome,teenhome;
```

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

Kidhome	Teenhome	COUNT
0	0	633
1	1	369
1	0	497
0	1	620
0	2	30
1	2	21
2	0	17
2	1	29

c. Purchase Behavior:

i. What is the average number of days since the last purchase?

```sql

/*
c. Purchase Behavior:
   i. What is the average number of days since the last purchase?
   */

   SELECT
        AVG(Recency) AS Average_Recency
   FROM ecom.customer_data;

/*
ii. How much, on average, do customers spend on each product category?
*/

SELECT
```

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

Average_Recency
49.0126

ii. How much, on average, do customers spend on each product category?

```sql
/*
ii. How much, on average, do customers spend on each product category?
*/

SELECT
 AVG(MntWines) AS Average_Wines,
 AVG(MntFruits) AS Average_Fruits,
 AVG(MntMeatProducts) AS Average_MeatProducts,
 AVG(MntFishProducts) AS Average_FishProducts,
 AVG(MntSweetProducts) AS Average_SweetProducts,
 AVG(MntGoldProds) AS Average_GoldProds
 FROM ecom.customer_data;
```

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

Average_Wines	Average_Fruits	Average_MeatProducts	Average_FishProducts	Average_SweetProducts	Average_GoldProds
305.0916	26.3560	166.9959	37.6376	27.0289	43.9653

d. Campaign Response:

i. How many customers accepted each campaign offer?

```sql
 d. Campaign Response:

i. How many customers accepted each campaign offer?
*/
SELECT
    SUM(AcceptedCmp1) AS Campaign1_Accepted,
    SUM(AcceptedCmp2) AS Campaign2_Accepted,
    SUM(AcceptedCmp3) AS Campaign3_Accepted,
    SUM(AcceptedCmp4) AS Campaign4_Accepted,
    SUM(AcceptedCmp5) AS Campaign5_Accepted
 FROM ecom.customer_data;

/*
```

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

Campaign1_Accepted	Campaign2_Accepted	Campaign3_Accepted	Campaign4_Accepted	Campaign5_Accepted
142	30	163	164	162

ii. What is the overall response rate for the last campaign?

```sql
/*
ii. What is the overall response rate for the last campaign?
 */
  SELECT
     Response,COUNT(*) AS Response_Count
  FROM ecom.customer_data
  GROUP BY Response;
```

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

Response	Response_Count
1	333
0	1883

e. Online and Offline Purchases:

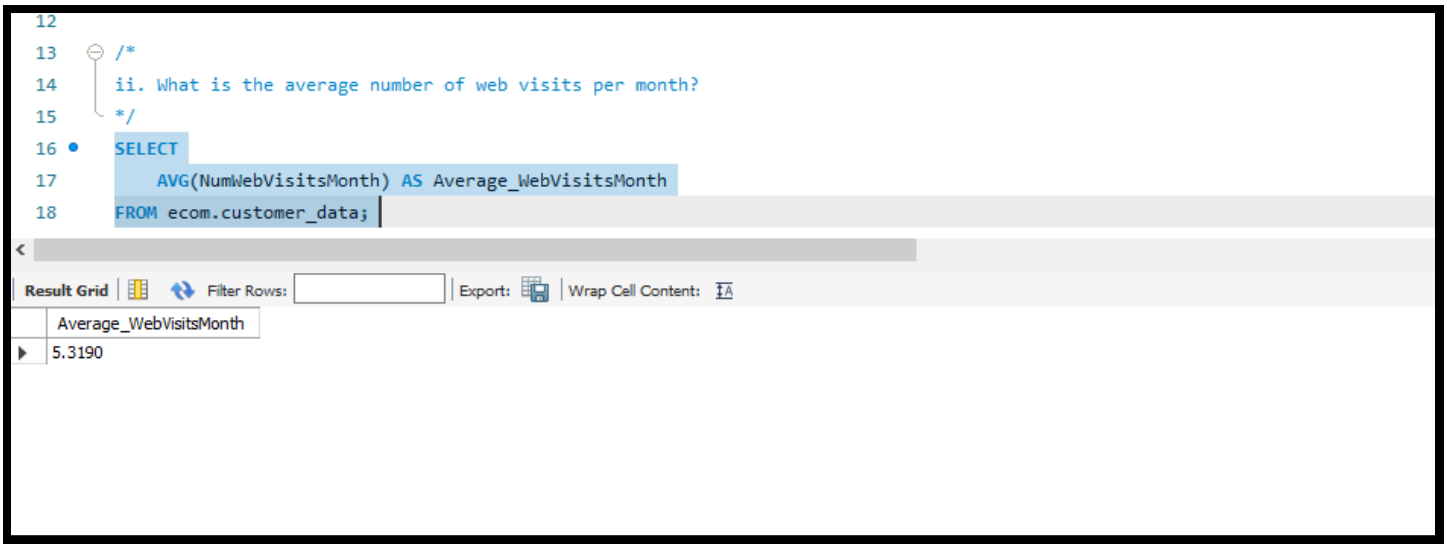
i. How many purchases are made through the website, catalog, and in-store?

```sql
e. Online and Offline Purchases:

i. How many purchases are made through the website, catalog, and in-store?
*/
SELECT
  SUM(NumWebPurchases) AS WebsitePurchases_Count,
  SUM(NumCatalogPurchases) AS CatalogPurchases_Count,
  SUM(NumStorePurchases) AS StorePurchases_Count
 FROM ecom.customer_data;

/*
ii. What is the average number of web visits per month?
*/
```

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

WebsitePurchases_Count	CatalogPurchases_Count	StorePurchases_Count
9053	5919	12855

ii. What is the average number of web visits per month?



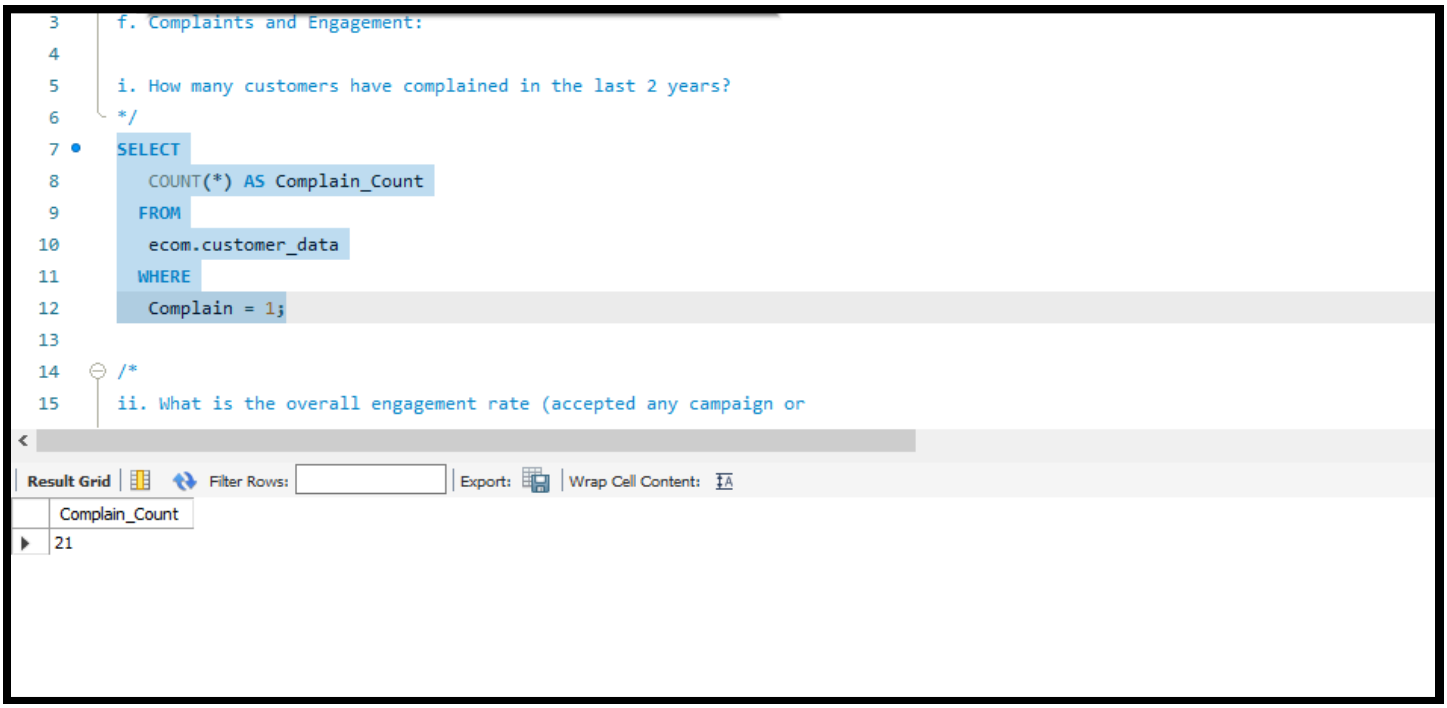
```
/*
ii. What is the average number of web visits per month?
*/
SELECT
    AVG(NumWebVisitsMonth) AS Average_WebVisitsMonth
FROM ecom.customer_data;
```

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

Average_WebVisitsMonth
5.3190

f. Complaints and Engagement:

i. How many customers have complained in the last 2 years?

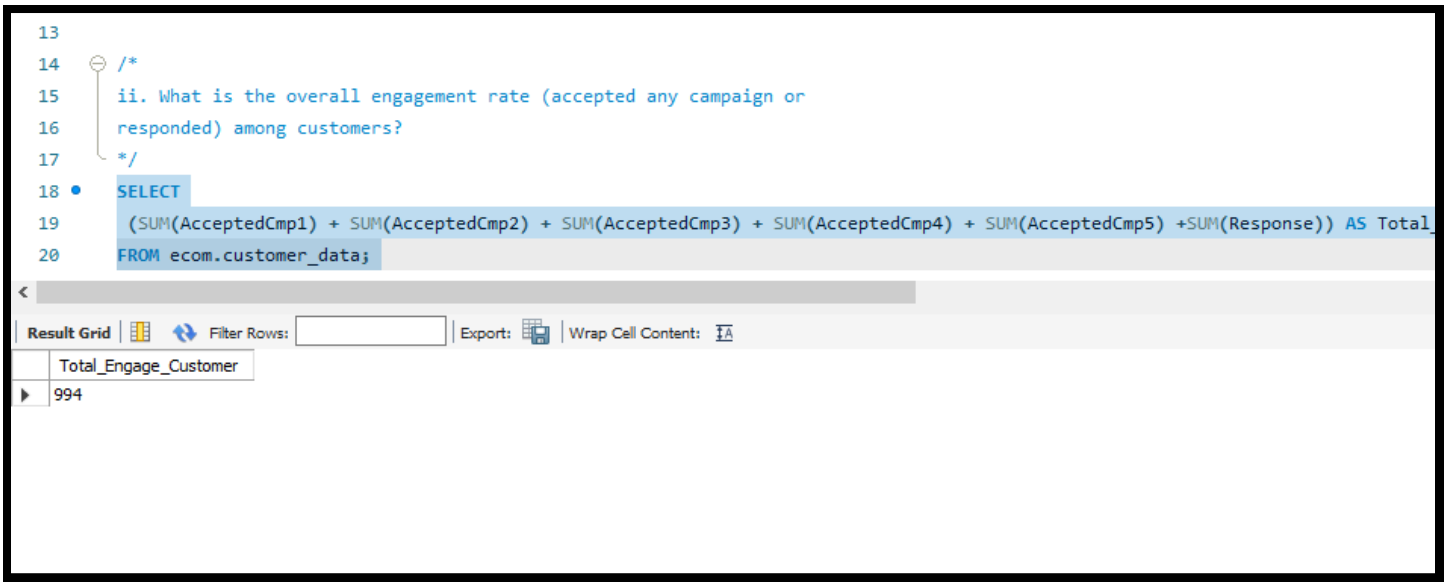


```
f. Complaints and Engagement:

i. How many customers have complained in the last 2 years?
*/
SELECT
   COUNT(*) AS Complain_Count
  FROM
   ecom.customer_data
  WHERE
   Complain = 1;

/*
ii. What is the overall engagement rate (accepted any campaign or
```

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

Complain_Count
21

ii. What is the overall engagement rate (accepted any campaign or responded) among customers?



```
/*
ii. What is the overall engagement rate (accepted any campaign or
responded) among customers?
*/
SELECT
 (SUM(AcceptedCmp1) + SUM(AcceptedCmp2) + SUM(AcceptedCmp3) + SUM(AcceptedCmp4) + SUM(AcceptedCmp5) +SUM(Response)) AS Total_
FROM ecom.customer_data;
```

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

Total_Engage_Customer
994

g. Discounts and Deals:

i. How many deals are made with discounts

```
g. Discounts and Deals:

i. How many deals are made with discounts
*/
SELECT
    SUM(NumDealsPurchases) AS Total_Deals,
    AVG(NumDealsPurchases) AS Avg_Deals,
    COUNT(*) AS total_Customer
   FROM ecom.customer_data;

/*
ii. What is the average number of deals and purchases made by customers?
*/
```

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

Total_Deals	Avg_Deals	total_Customer
5149	2.3236	2216

ii. What is the average number of deals and purchases made by customers?

```sql
/*
ii. What is the average number of deals and purchases made by customers?
*/
SELECT
    AVG(NumWebPurchases + NumCatalogPurchases + NumStorePurchases)  AS Avg_Total_Purchases
FROM ecom.customer_data;
```

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

Avg_Total_Purchases
12.5573

h. Campaign Effectiveness:

i. What is the conversion rate for each campaign?

```sql
i. What is the conversion rate for each campaign?
*/
SELECT
  Campaign,
  SUM(Response) AS Accepted,
  COUNT(*) AS Total
 FROM (
 SELECT 'Campaign1' AS Campaign, Response FROM ecom.customer_data WHERE AcceptedCmp1 = 1
 UNION ALL
 SELECT 'Campaign2' AS Campaign, Response FROM  ecom.customer_data WHERE AcceptedCmp2 = 1
 UNION ALL
SELECT 'Campaign3' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp3 = 1
 UNION ALL
SELECT 'Campaign4' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp4 = 1
 UNION ALL
SELECT 'Campaign5' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp5 = 1
 UNION ALL
SELECT 'LastCampaign' AS Campaign, Response FROM  ecom.customer_data Where Response = 1
 ) AS CampaignData
```

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

Campaign	Accepted	Total
Campaign1	79	142
Campaign2	20	30
Campaign3	77	163
Campaign4	62	164
Campaign5	91	162

ii. Which campaign has the highest acceptance rate?

```
ii. Which campaign has the highest acceptance rate?
*/
SELECT
  Campaign,
  SUM(Response) AS Accepted,
  COUNT(*) AS Total
 FROM (
 SELECT 'Campaign1' AS Campaign, Response FROM ecom.customer_data WHERE AcceptedCmp1 = 1
 UNION ALL
 SELECT 'Campaign2' AS Campaign, Response FROM  ecom.customer_data WHERE AcceptedCmp2 = 1
 UNION ALL
SELECT 'Campaign3' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp3 = 1
 UNION ALL
SELECT 'Campaign4' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp4 = 1
```

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

Campaign	Accepted	Total
Campaign1	79	142
Campaign2	20	30
Campaign3	77	163
Campaign4	62	164
Campaign5	91	162
LastCampaign	333	333

```
  COUNT(*) AS Total
 FROM (
 SELECT 'Campaign1' AS Campaign, Response FROM ecom.customer_data WHERE AcceptedCmp1 = 1
 UNION ALL
 SELECT 'Campaign2' AS Campaign, Response FROM  ecom.customer_data WHERE AcceptedCmp2 = 1
 UNION ALL
SELECT 'Campaign3' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp3 = 1
 UNION ALL
SELECT 'Campaign4' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp4 = 1
 UNION ALL
SELECT 'Campaign5' AS Campaign, Response FROM  ecom.customer_data Where AcceptedCmp5 = 1
 UNION ALL
SELECT 'LastCampaign' AS Campaign, Response FROM  ecom.customer_data Where Response = 1
 ) AS CampaignData
GROUP BY Campaign;
```

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

Campaign	Accepted	Total
Campaign1	79	142
Campaign2	20	30
Campaign3	77	163
Campaign4	62	164
Campaign5	91	162
LastCampaign	333	333

i. Web Engagement and Purchases:

i. What is the correlation between the number of web visits and web purchases?

```
3   i. Web Engagement and Purchases:
4
5   i. What is the correlation between the number of web visits and web
6   purchases?
7   */
8   SELECT
9      NumWebVisitsMonth, NumWebPurchases
10     FROM
11        ecom.customer_data;
```

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

NumWebVisitsMonth	NumWebPurchases
7	8
5	1
4	8
6	2
5	5
6	6
6	7
8	4

j. Overall Spending Patterns:

i. What is the overall distribution of spending across all product categories?

```
207
208         /*
209   j. Overall Spending Patterns:
210
211   i. What is the overall distribution of spending across all product categories?
212   */
213   SELECT
214     SUM(MntWines) As Total_Wine_Spending,
215     SUM(MntFruits) AS Total_Fruits_Spending,
216     SUM(MntSweetProducts) AS Total_Sweets_Spending,
217     SUM(MntGoldProds) AS Total_Gold_Spending
218    FROM
219    ecom.customer_data;
```

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

Total_Wine_Spending	Total_Fruits_Spending	Total_Sweets_Spending	Total_Gold_Spending
676083	58405	59896	97427

Siddhesh Monde

Thank You !