

# MIS784 – Assignment 1 – T3, 2024

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## Query Appendix

### QUESTION 1

Best-selling Product

```
SELECT StockCode, Description,
SUM(Quantity) AS TotalQuantity,
FROM `genial-moon-441804-t5.Assignment1.MarketCo`
GROUP BY StockCode, Description
ORDER BY TotalQuantity DESC LIMIT 1
```

Row	StockCode	Description	TotalQuantity
1	SKU_1114	T-shirt	88

Highest Return Rate

```
SELECT StockCode, Description,
SUM(CASE WHEN ReturnStatus = "Returned" THEN Quantity ELSE 0 END) AS TotalReturns,
SUM(Quantity) AS TotalTransactions,
SUM(CASE WHEN ReturnStatus = "Returned" THEN Quantity ELSE 0 END)/SUM(Quantity) AS
ReturnRate
FROM `genial-moon-441804-t5.Assignment1.MarketCo`
GROUP BY StockCode, Description
ORDER BY ReturnRate DESC, TotalReturns DESC LIMIT 1
```

Row	StockCode	Description	TotalReturns	TotalTransactions	ReturnRate
1	SKU_1921	Notebook	53	53	1.0

Most Applied Discounts

```
SELECT StockCode, Description,
SUM(Discount*Quantity*UnitPrice)/SUM(Quantity*UnitPrice) AS TotalDiscount
FROM `genial-moon-441804-t5.Assignment1.MarketCo`
GROUP BY StockCode, Description
ORDER BY TotalDiscount DESC
LIMIT 1
```

Row	StockCode	Description	TotalDiscount
1	SKU_1679	USB Cable	0.5

## QUESTION 2

Number of unique customers who have made at least one purchase for each sales channel

```
SELECT SalesChannel,
       COUNT(DISTINCT UserID) AS UniqueCustomers
    FROM `genial-moon-441804-t5.Assignment1.MarketCo`
   GROUP BY SalesChannel
  ORDER BY UniqueCustomers DESC
```

Row	SalesChannel	UniqueCustomers
1	Online	249
2	In-store	248

## QUESTION 3

## RFM Value scores

```
SELECT UserID,  
DATE_DIFF(CURRENT_DATE(), MAX(InvoiceDate), DAY) AS recency_score,  
COUNT(DISTINCT InvoiceNo) AS frequency_score,  
SUM((Quantity*UnitPrice)-(Quantity*UnitPrice*Discount)) AS monetary_score  
FROM `genial-moon-441804-t5.Assignment1.MarketCo`  
GROUP BY UserID
```

Row	UserID	recency_score	frequency_score	monetary_score
1	511	1679	1	1067.8096
2	3385	893	1	88.12799999999999
3	4992	1189	1	395.097
4	3519	1595	1	1790.561499999999
5	1106	939	1	704.592
6	7548	628	1	2634.231599999999
7	7158	1421	1	944.9688
8	1782	1453	1	202.4189999999999
9	7554	471	1	2816.814
10	4795	681	1	472.5490000000000

## QUESTION 4

Segment customers into five groups for Recency, Frequency and Monetary value

```
WITH rfm_scores AS (
  SELECT UserID,
  DATE_DIFF(CURRENT_DATE(), MAX(InvoiceDate), DAY) AS recency_score,
  COUNT(DISTINCT InvoiceNo) AS frequency_score,
  SUM((Quantity*UnitPrice)-(Quantity*UnitPrice*Discount)) AS monetary_score
  FROM `genial-moon-441804-t5.Assignment1.MarketCo`
  GROUP BY UserID),
  rfm_quintiles AS(
    SELECT UserID, rfm_scores.recency_score, rfm_scores.frequency_score,
    rfm_scores.monetary_score,
    NTILE(5) OVER (ORDER BY recency_score) AS recency_quintile,
    NTILE(5) OVER (ORDER BY frequency_score DESC) AS frequency_quintile,
    NTILE(5) OVER (ORDER BY monetary_score DESC) AS monetary_quintile
    FROM rfm_scores
  )
  SELECT UserID, recency_score, frequency_score, monetary_score, recency_quintile,
  frequency_quintile, monetary_quintile,
  CONCAT(recency_quintile, frequency_quintile, monetary_quintile) AS rfm_cell
  FROM rfm_quintiles
  ORDER BY rfm_cell DESC
```

Row	UserID	recency_score	frequency_score	monetary_score	rfm_cell
1	3086	1536	1	97.614	555
2	6079	1770	1	171.0072	555
3	7775	1462	1	35.58020000000000...	555
4	9207	1550	1	74.5680000000000...	555
5	5665	1509	1	245.2692	554
6	7688	1687	1	272.7674999999...	554
7	6024	1567	1	204.7300000000...	554
8	6775	1701	1	219.0316000000...	554
9	4179	1478	1	337.6377	554
10	8933	1656	1	753.3652	553