# Homework 3 – Group Q

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**Table 1 – Transaction\_info**Columns:

* TransactionNo
* Date
* ProductNo
* ProductName
* CustomerNo
* Country

**Table 2 – Transaction\_income**  
Columns:

* TransactionNo
* Price
* Quantity

## **Part 1**

**Question 1 -** What are the most popular products and categories among our customers, and how do these vary across different countries and time periods?

Query 1:

/\* Selecting the most best selling product \*/

SELECT TOP 1

ProductName, count (\*) AS total\_transactions

FROM Transaction\_info

GROUP BY ProductName

ORDER BY total\_transactions;

Query 2:

/\* Ranking for each country, product in DESC order \*/

SELECT Country, ProductName,

RANK() OVER(PARTITION BY Country ORDER BY Price DESC) AS RANK

FROM Transaction\_info inf INNER JOIN Transaction\_income inc

ON inf.TransactionNo = inc.TransactionNo

Query 3:

/\* Find the first value of Quantity for each product \*/

SELECT ProductName, Date, Quantity, FIRST\_VALUE(Quantity)

OVER(PARTITION BY ProductName ORDER BY Date) AS FirstQuantity

FROM Transaction\_info inf INNER JOIN Transaction\_income inc

ON inf.TransactionNo = inc.TransactionNo

**Question 2** - Which country is the most profitable, and how can the company increase sales in countries with lower customer engagement?

Query 1:

/\* Find the country with the biggest income from transactions \*/

SELECT Country, total\_income

FROM

(SELECT Country, SUM(Price\*Quantity) AS total\_income,

MAX(COUNT(\*)) OVER () AS max\_ total\_income

FROM Transaction\_info inf INNER JOIN Transaction\_income inc

ON inf.TransactionNo = inc.TransactionNo

GROUP BY Country)

WHERE total\_income = max\_ total\_income

Query 2:

/\* find the customer that spent the most money \*/

SELECT CustomerNo, Country, SUM(Price\*Quantity) AS expenses

FROM Transaction\_info inf INNER JOIN Transaction\_income inc

ON inf.TransactionNo = inc.TransactionNo

GROUP BY CustomerNo, Country

ORDER BY expenses DESC

LIMIT 1

Query 3:

/\* Find the date with the most transactions for each country \*/

SELECT Country, Date, COUNT(TransactionNo) AS total\_transactions,

FIRST\_VALUE(COUNT(TransactionNo))

OVER(PARTITION BY Country ORDER BY Date) AS FirstDate

FROM Transaction\_info inf INNER JOIN Transaction\_income inc

ON inf.TransactionNo = inc.TransactionNo