In this exercise, you will practice creating various visualizations in POWER BI. During this sprint, it is crucial that you organize the information efficiently and clearly, keeping in mind the objectives of each chart. In Level 1, you are expected to generate visualizations that facilitate the understanding of the sales pattern by country of the companies. In Level 2, we will delve deeper into the transactions of the companies, taking into account the time factor. Finally, in Level 3, visualizations will be created to analyze the transaction pattern by user and product.

In this sprint, it will be necessary to present all the exercises of the same level in a single dashboard.

Level 1

- Exercise 1

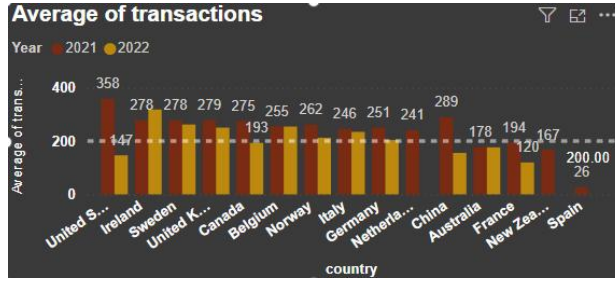
The company needs to evaluate its international sales performance. As part of this process, you are asked to choose a chart that details the average sales broken down by country and year in a single visual presentation. It is necessary to highlight the averages that are less than 200 euros per year.

#Explicacion:

1- Report view>clustered column chart>

2- filter> ‘declined=false’

#Resultado:



- Exercise 2

The company is interested in getting an overview of the transactions made by each country. Your task is to create a visualization that identifies the percentage of sales by country.

#Explicacion:

1- Report view> visualization> Treemap> {Ctegory=country & value=SUM of amount} ➡ show value as : percent of grand total (para ensñar en %)

#Resultado:

- Exercise 3

Design a visual indicator in Power BI to analyze the difference in sales between the years 2022 and 2021 in each country. The company is interested in understanding how sales have varied in different countries during this period and wants to identify any significant decreases or increases in sales.

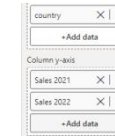
#Explicacion:

1- Model view> New measurement> crear las medidas:

```
S6_N1_E3_Sales 2021 =
CALCULATE(
    SUM('star_schema_db transactions'[amount]),
    'Calendar'[Year] = 2021
)
```

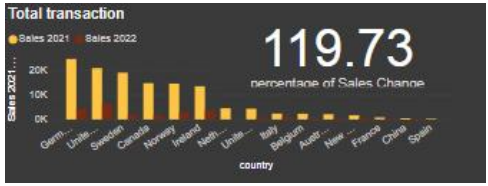
```
S6_N1_E3_Sales 2022 =
CALCULATE(
    SUM('star_schema_db transactions'[amount]),
    'Calendar'[Year] = 2022
)
```

```
S6-N1-E3_Sales_Change = [S6_N1_E3_Sales 2022] - [S6_N1_E3_Sales 2021]
```



2- Report view> visualization>
Line and clustered column chart

#Resultado:



- Exercise 4

Create a visualization that can count the number of rejected transactions in each country to measure the effectiveness of operations. Remember that the company expects to have fewer than 5 rejected transactions per country.

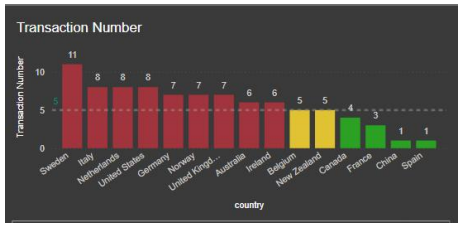
#Explicacion:

1- Report view> visualization>
Stacked column chart {X-axis:country, Y-axis: Count(transaction_id)}

2- Filter {declined=True}

3- Format > conditional color en column: {count>5 (RED), count =5 (Yellow) & count <5 (Green)}

#Resultado:



- Exercise 5

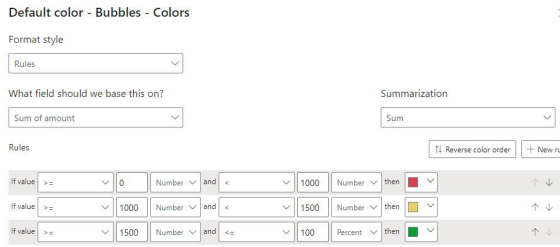
The company seeks to understand the geographic distribution of sales to identify patterns and opportunities specific to each region. Select the best visualization to display this information.

#Explicacion:

1- Report view> visualization>Map {location: country de la tabla company
& bubble size: Sum (amount)}

2- Filter {declined=True}

3- Format : conditional color



#Resultado:

- Exercise 6

Your boss has asked you to prepare a presentation for your team detailing the information from all the graphs viewed so far. To fulfill this request, you must provide an interpretation of the visualizations obtained. The

presentation can be made with general information or by selecting a particular element, such as the results of Spain.

Level 2

Exercise 1

Your task is to implement an interactive filter that allows you to select sales for each year.

#Explicacion:

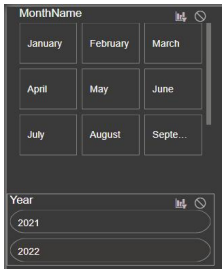
1- Report view> Visualization> Slicer (calendar: year)

Exercise 2

Management is interested in further analyzing sales for the month. Therefore, they ask you to make the necessary adjustments to display the information in this way.

#Explicacion:

1- Report view> Visualization> Slicer (calendar: MonthName)



Exercise 3

View total sales and number of transactions made. If necessary, you can create two separate views.

#Explicacion:

1- Report view> Visualization> card> { SUM (amount)}
& filter (declined=false)

2- Report view> Visualization> card> {Count (id)}
& filter (declined=false)
Resultado :

Exercise 4

Create a visualization that allows you to effectively and clearly observe the number of sales made and the number of rejected transactions.

#Explicacion:

1- Report view> Visualization> clustered column chart>
{X-axis: declined, Y-axis: Count of (id)}

#Resultado:

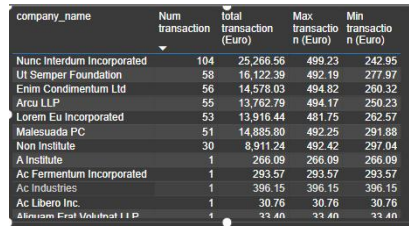
Exercise 5

Select a visualization that reflects the descriptive statistics of the companies that made transactions. Remember to show the total for each statistic.

#Explicacion:

1- Report view> Visualization> table>{company_name, Sum (amount), Count(amount), Avg(amount), Max(amount)}
&filter: (declined=false)

#Resultado:



company_name	Num transaction	total transaction (Euro)	Max transaction (Euro)	Min transaction (Euro)
Nunc Interdum Incorporated	104	25,266.56	499.23	242.95
Ut Semper Foundation	58	16,122.39	492.19	277.97
Enim Condimentum Ltd	56	14,578.03	494.82	260.32
Arcu LLP	55	13,762.79	494.17	250.23
Lorem Eu Incorporated	53	13,916.44	481.75	262.57
Malesuada PC	51	14,885.80	492.25	291.88
Non Institute	30	8,911.24	492.42	297.04
A Institute	1	266.09	266.09	266.09
Ac Fermentum Incorporated	1	293.57	293.57	293.57
Ac Industries	1	396.15	396.15	396.15
Ac Libero Inc.	1	30.76	30.76	30.76
Aliquam Erat Volutpat LLP	1	33.40	33.40	33.40

Level 3

Exercise 1

Your company wants to delve deeper into the analysis of the characteristics of users who participate in transactions, as well as the products sold. You have been asked to create relevant visualizations to strategically improve advertising campaigns and increase sales. The visualizations you should include are the following:

Personal information of users.

- Number of transactions made and rejected. The company expects each user to have at least 10 transactions per year, and to have less than 2 rejected transactions per year.

#Explicacion:
1- Model view> New Measurement

#1

```
S6_N3_Total_Transactions = CALCULATE(
    COUNT('star_schema_db transactions'[id])
)
```

#2

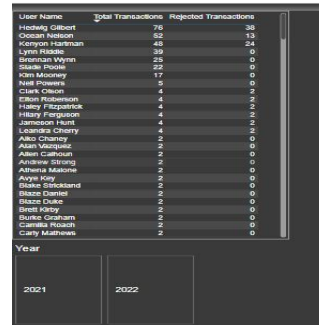
```
Rejected Transactions =
COALESCE(
    CALCULATE(
        COUNT('star_schema_db transactions'[id]),
        'star_schema_db transactions'[declined] = TRUE()
    ),
    0
)
```

#3

```
S6_N3_Status_user = IF(
    [S6_N3_Total_Transactions] >= 10 && [Rejected Transactions] < 2,
    "High",
    "Normal"
)
```

2- Report view>visualization> table
3- Report view>visualization> slicer (year)

#Resultado:



- Identification of the cheapest and most expensive product purchased by each user, along with its price.

#Explicacion:
1- Model view> New Measurement>

#1

```
S6_N3_cheapest_Product =
CALCULATE(
    MIN('star_schema_db products'[price]),
    CROSSFILTER('star_schema_db products'[id],'star_schema_db transaction_products'
    [product_id], BOTH)
)
```

#2

```
S6_N3_Most Expensive Product =
CALCULATE(
    MAX('star_schema_db products'[price]),
    CROSSFILTER('star_schema_db products'[id],'star_schema_db transaction_products'
    [product_id], BOTH)
)

```

#3

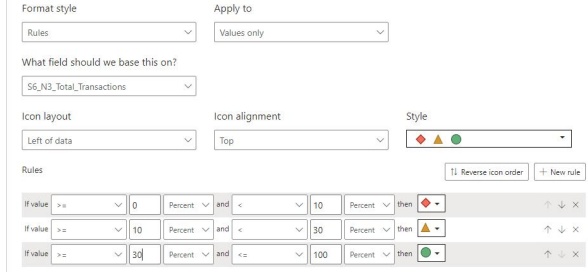
```
S6_N3_Cheapest_Product_Name = CALCULATE(LOOKUPVALUE('star_schema_db products'[product_name],
'star_schema_db products'[price],MIN('star_schema_db products'[price])),CROSSFILTER
('star_schema_db transaction_products'[product_id],'star_schema_db products'[id],Both))

```

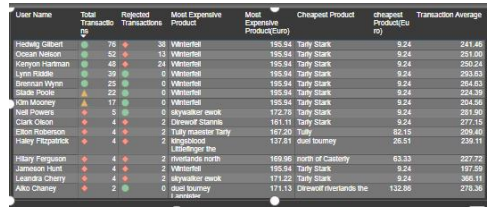
#4

```
S6_N3_Most Expensive Product Name = CALCULATE(LOOKUPVALUE('star_schema_db products'
[product_name],'star_schema_db products'[price],max('star_schema_db products'[price])),
CROSSFILTER('star_schema_db transaction_products'[product_id],'star_schema_db products'[id],
Both))
```

2- Añadir estas medidas a tabla de ejercicio anterior de nivel3:
Format> conditional icons:



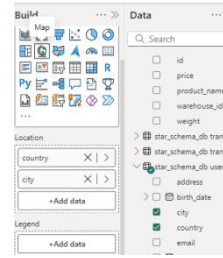
#Resultado:



User Name	Total Transactions	Rejected Transactions	Most Expensive Product	Most Expensive Product(Euro)	Cheapest Product	cheapest Product(Euro)	Transaction Average
Hedwig Gilbert	76	38	Winterfell	195.94	Tarly Stark	9.24	241.46
Ocean Nelson	52	13	Winterfell	195.94	Tarly Stark	9.24	251.00
Kenyon Hartman	48	24	Winterfell	195.94	Tarly Stark	9.24	250.24
Lynn Riddle	39	0	Winterfell	195.94	Tarly Stark	9.24	293.63
Brennan Wynn	25	0	Winterfell	195.94	Tarly Stark	9.24	264.63
Slade Poole	22	0	Winterfell	195.94	Tarly Stark	9.24	224.39
Kim Mooney	17	0	Winterfell	195.94	Tarly Stark	9.24	264.36
Nell Powers	5	0	skywalker ewok	172.78	Tarly Stark	9.24	287.90
Clark Olson	4	2	Direwolf Stannis	161.11	Tarly Stark	9.24	277.15
Elton Roberson	4	2	Tully maester Tarly	167.20	Tully	82.15	299.46
Hailey Fitzpatrick	4	2	kingsblood Littlefinger the	137.61	duel tourney	26.51	239.11
Hilary Ferguson	4	2	riverlands north	169.96	north of Castorly	63.33	227.72
Jameson Hunt	4	2	Winterfell	195.94	Tarly Stark	9.24	197.59
Leandra Cherry	4	2	skywalker ewok	171.22	Tarly Stark	9.24	366.11
Aiko Chaney	2	0	duel tourney	171.13	Direwolf riverlands the	132.86	270.36

- Geographic distribution of users.

#Explicacion:
1- Report view> Visualization> map
Bubble size: count (user_id)
Format: conditional color



#Resultado:

- Average number of purchases made.
- The user must have the option to select if they wish to view information for one year only. (crear slicer)

After creating the charts, you should present the information of the user with ID 96 with a brief description of the data through a slideshow. Make sure to optimize the readability and understanding of the visualizations through appropriate adjustments.